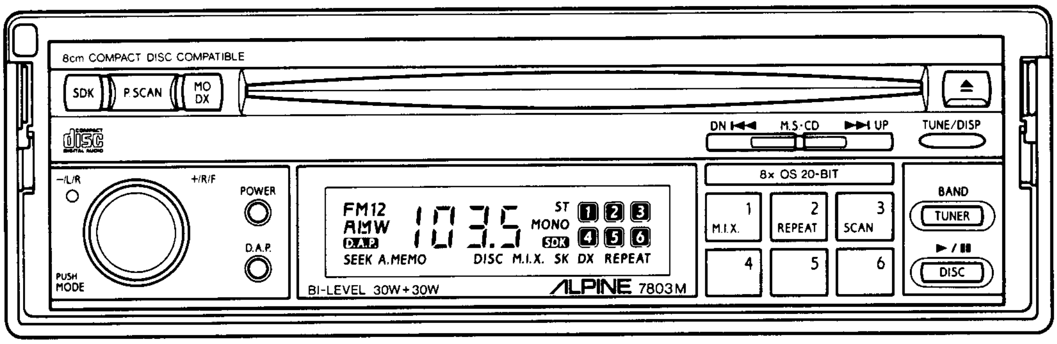
ALPINE SERVICE MANUAL

Digital FM/MW/LW Compact Disc Player

- For the CD player mechanism parts (DP24A210) of this model, refer to the Service Manual • DP-S Series (68P13315W03).


8cm COMPACT DISC COMPATIBLE
SDK
P SCAN
MO DX
DN
M.S·CD
UP
TUNE/DISP
8x OS 20-BIT
–/L/R
+/R/F
POWER
D.A.P.
PUSH MODE
FM12
AMW
D.A.P.
103.5
ST
MONO
SDK
SEEK A.MEMO
DISC M.I.X. SK DX REPEAT
BI-LEVEL 30W+30W
ALPINE 7803M
1 M.I.X.
2 REPEAT
3 SCAN
4
5
6
BAND
TUNER
►/II
DISC

7803M

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Spare Schematic Diagram Inserted.

Specifications

<CD SECTION>

System	Optical (Compact Disc System)
Quantizing Bit Number	16 Bit Linear System
Channels	2 channels
Distortion (at 1kHz)	0.03%
Freguency Response (Ref. 1kHz)	0 ± 3dB (17Hz) 0 ± 2dB (127Hz~10.007kHz) 0 ± 4dB (19.997kHz)
S / N Ratio	90dB
Separation (at 1kHz)	60dB
De - Emphasis (Ref. 1kHz)	4kHz : -20 ± 3dB 16kHz : -20 ± 3dB
Noise Level (at VOL. Min)	0.1mV
Currents (at Play)	1.2A

<FM SECTION>

Intermediate Frequency	10.7 ± 0.1MHz
Frequency Range	87.5~108MHz
Usable Sensitivity (Mono 30dB S / N, at 98.1MHz)	17.2dBf
Limiting Sensitivity (-10dB, at 98.1MHz)	17.2 ± 5dBf
S / N Ratio (Stereo at 98.1MHz)	48dB
Image Rejection (at 98.1MHz)	40dB
IF Rejection (at 90.1MHz)	60dB
Distortion (Input 1mV at 98.1MHz)	1%
Frequency Response (Ref. 400Hz, at 98.1MHz)	100Hz : 0 ± 3dB 10kHz : -14 ± 3dB
Stereo Separation (at 1kHz)	25dB
SK Sensitivity (at 98.1MHz)	25.2dBf

<MW SECTION>

Intermediate Frequency	450kHz
Frequency Range	531~1,602kHz
Sensitivity (20dB S / N, at 999kHz)	45.2dBf
S / N Ratio (at 999kHz)	44dB
Image Rejection (at 1,404kHz)	50dB
IF Rejection (at 603kHz)	60dB
Distortion (at 999kHz)	2%
Frequency Response (Ref. 400Hz, at 999kHz)	100Hz : -3 ± 4dB 4kHz : -12 ± 6dB

<LW SECTION>

Intermediate Frequency	450kHz
Frequency Range	153~281kHz
Sensitivity (20dB S / N, at 216kHz)	52.2dBf
S / N Ratio (at 216kHz)	40dB
Image Rejection (at 216kHz)	50dB
IF Rejection (at 216kHz)	50dB
Distortion (at 216kHz)	2%
Frequency Response (Ref. 400Hz, at 216kHz)	100Hz : -3 ± 4dB 4kHz : -12 ± 6dB

<GENERAL>

Power Supply	DC14V
Output Power (T.H.D 10% at 1kHz)	2 Speaker Mode : 13W / ch / 4ohm
	4 Speaker Mode : 4W / ch / 4ohm
Pre - Output Voltage / Impedance	2V / 10kohm
Semiconductors	35IC's, 86Transistors, 32Diodes, 14Zener Diodes
Dimensions (W x H x D)	Chassis : 178 x 50 x 153mm
	Nose : 178 x 50 x 15mm
Weight	2.2kg

<COMPACT DISC>

Track Pich	1.6μm
Modulation Frequency	44.1kHz
Transfer Rate	4.3218Mbit / sec.
Dimensions	120 / 80 x 1.2mm

NOTE : Due to Continuing product improvement, specifications and designs are subject to change without notice.

FEATURES

- **FULL FRONT DIN™**
- **HIGH POWER TUNER COMPACT DISC PLAYER**
- **Q.R.B. (QUICK RELEASE BRACKET)**
  Alpine's exclusive Q.R.B. design allows for easy removal and insertion of the 7803M while still maintaining the unit's memory. The 7803M can be removed and taken with the owner for theft prevention.
- **SDK FUNCTION**

‹COMPACT DISC PLAYER FEATURES›

- **8-TIMES OVERSAMPLING DIGITAL FILTER**
- **MUSIC SENSOR UP/DOWN**
  For locating the beginning of the next track (up), or the track currently in playback (down).
- **FAST FORWARD/FAST BACKWARD**
- **M.I.X.**
  When the M.I.X. button is pressed, the microprocessor inside the 7803M will randomly select tracks for playback.
- **REPEAT (ONE/ALL)**
- **3-INCH DISCS**
  This unit plays 3-inch compact discs without using an adaptor ring.
- **EJECT AUTO-LOCK**
  This locks the laser mechanism when a disc is ejected.
- **DISC SCAN**
  Locates the beginning of each track and plays the first 10 seconds.
- **ELECTRONIC EJECT/RELOAD**
- **PAUSE**

FEATURES

‹RADIO FEATURES›

- **T-10IIS TUNER**
  Alpine's premier tuner utilizes a number of innovations to ensure stable, noise-free FM reception in both strong and weak signal areas.
- **A. MEMO (AUTO MEMORY)**
  In the Auto Memory mode, the 6 strongest FM, MW or LW stations will be stored automatically.
- **D.A.P. (DIRECT ACCESS PRESETS)**
  D.A.P. allows the storage of FM, MW and LW presets on the same band, eliminating the need to press the BAND button. Up to 6 FM and MW/LW stations can be mixed in the D.A.P. Band.
- **SWITCHING THE FM VOLUME**
- **ETR/PLL DIGITAL FREQUENCY SYNTHESIZER**
- **LITETOUCH™ 30-STATION PRESETS**
  FM1: 6, FM2: 6, MW: 6, LW: 6, D.A.P.: 6
- **SELECTABLE FADER**
  This system allows you to use either the pre-amp or power amp fader. The pre-amp fader controls the signal level between the unit's internal amplifier and the pre-amp output going to an external amplifier. The power fader controls the signal between the front and rear speaker outputs.
- **ELAPSED TIME DISPLAY**
- **SELECTABLE 2 OR 4 SPEAKERS SYSTEM**
- **BACK LIGHTING GREEN OR AMBER**
- **30W + 30W POWER OUTPUT**

CONTROLS AND INDICATORS

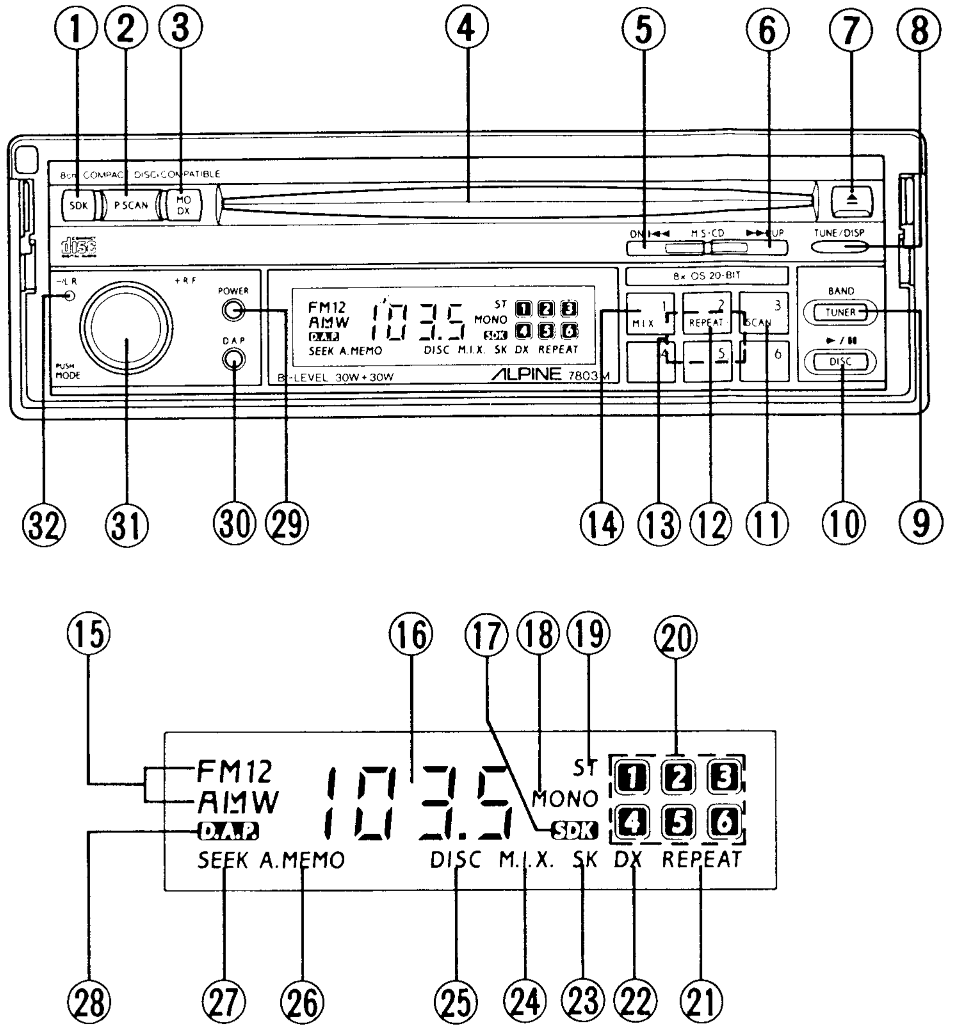

Fig. 1

Please see the page indicated in the table below for explanations on the controls and indicators.
Die Erklärungen der Bedienungselemente und Anzeigen betreffend schauen sie sich bitte die in der folgenden Tabelle angegebene Seite an.
Prière de lire la page indiquée au tableau ci-dessous pour les explications sur les commandes et indicateurs.
Fate riferimento alla pagina indicata nella tabella qui sotto per ulteriori chiarimenti riguardo i controlli ed indicatori.
Consulte la página indicada abajo, en la tabla, para más explicaciones sobre los controles e indicadores.
Se sidindikeringarna i tabellen nedan för förklaring av kontroller och indikatorer.

FEATURES

) FEATURES›

OIIS TUNER
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.P. (DIRECT ACCESS PRESETS)
.P. allows the storage of FM, MW and LW presets on the same band, eliminating need to press the BAND button. Up to 6 FM and MW/LW stations can be mixed in D.A.P. Band.

ITCHING THE FM VOLUME

/PLL DIGITAL FREQUENCY SYNTHESIZER

ETOUCH™ 30-STATION PRESETS
1: 6, FM2: 6, MW: 6, LW: 6, D.A.P.: 6

LECTABLE FADER
s system allows you to use either the pre-amp or power amp fader. The pre-amp er controls the signal level between the unit's internal amplifier and the pre-amp out going to an external amplifier. The power fader controls the signal between the t and rear speaker outputs.

APSED TIME DISPLAY

LECTABLE 2 OR 4 SPEAKERS SYSTEM

CK LIGHTING GREEN OR AMBER

V + 30W POWER OUTPUT

CONTROLS AND INDICATORS

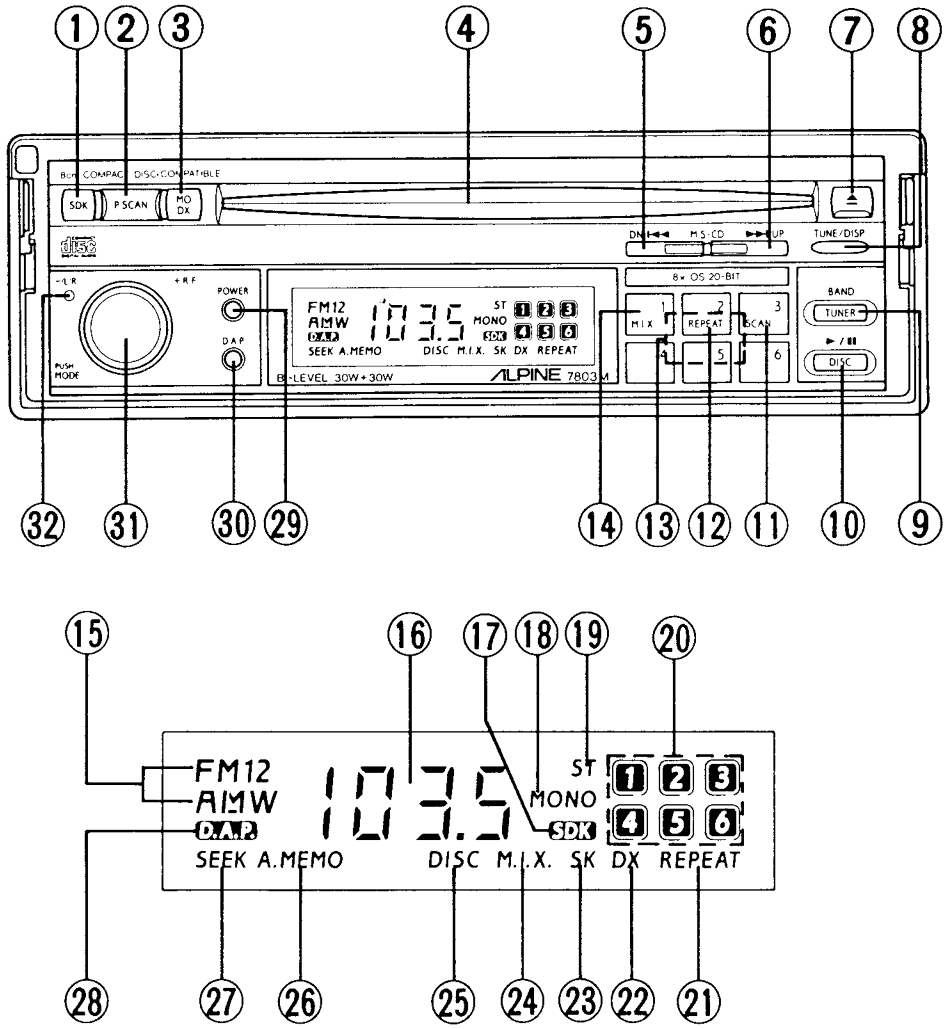

Fig. 1

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Se sidindikeringarna i tabellen nedan för förklaring av kontroller och indikatorer.

CONTROLS AND INDICATORS

Listed below are all the Controls and their Indicators. Please see the Operation Section for explanations.

① **SDK Switch**
② **Preset SCAN Button**
③ **MONO/DX (Local/Distance) Switch**
④ **Disc Slot**
⑤ **M.S. · CD DowN (⏮) Switch**

⑥ **M.S. · CD UP (⏭) Switch**
⑦ **Eject Button**
⑧ **TUNE/DISP Switch**
⑨ **BAND/TUNER Button**
⑩ **DISC Play/Pause Button (►/II)**

⑪ **SCAN Button**
⑫ **REPEAT Button**
⑬ **Station Preset Buttons**
⑭ **M.I.X. Button**
⑮ **Band Indicator**

⑯ **Digital Display**
⑰ **SDK Indicator**
⑱ **MONO Indicator**
⑲ **STereo Indicator**
⑳ **Preset Address Indicators**

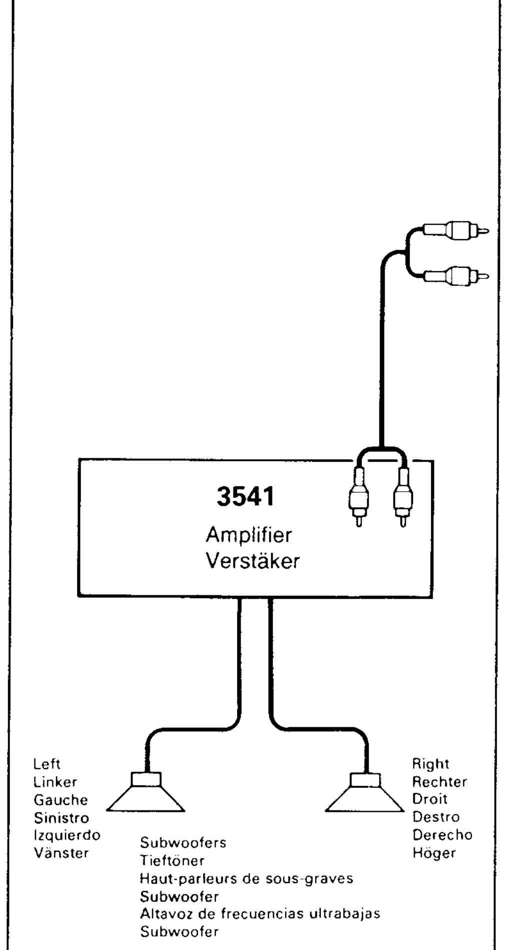
㉑ **REPEAT Indicator**
㉒ **DX (Distance) Indicator**
㉓ **SK Indicator**
㉔ **M.I.X. Indicator**
㉕ **DISC Indicator**

㉖ **Auto MEMOry Indicator**
㉗ **SEEK Indicator**
㉘ **D.A.P. Indicator**
㉙ **POWER Button**
㉚ **D.A.P. (Direct Access Presets) Button**

㉛ **Audio MODE Select Switch (PUSH)**
㉜ **Reset Switch**

CONNECTIONS

SYSTEM/SYSTEME/SISTEMA


3541
Amplifier
Verstäker
Left
Linker
Gauche
Sinistro
Izquierdo
Vänster
Right
Rechter
Droit
Destro
Derecho
Höger
Subwoofers
Tieftöner
Haut-parleurs de sous-graves
Subwoofer
Altavoz de frecuencias ultrabajas
Subwoofer

CAUTIONS ON SPEAKER LEADS:

- Do not connect a minus (−) lead to the other minus (−) lead in common.
- Do not connect the minus (−) lead to the chassis GND.

VORSICHT MIT DEN LAUTSPRECHERKABELN:

- Ein Minuskabel (−) darf keinesfalls an ein anderes Minuskabel (−) angeschlossen werden.
- Das Minuskabel (−) darf nicht ans Chassis geerdet werden.

PRECAUTIONS CONCERNANT LES CONDUCTEURS D'ENCEINTE:

- Ne pas connecter un conducteur négatif (−) à l'autre conducteur négatif (−).
- Ne pas connecter le conducteur négatif (−) à la masse (GND) du châssis.

AVVERTENZE PER I CAVI DELL'ALTOPARLANTE:

- Non collegate un cavo negativo (−) all'altro cavo negativo (−).
- Non collegate il cavo negativo (−) al telaio GND.

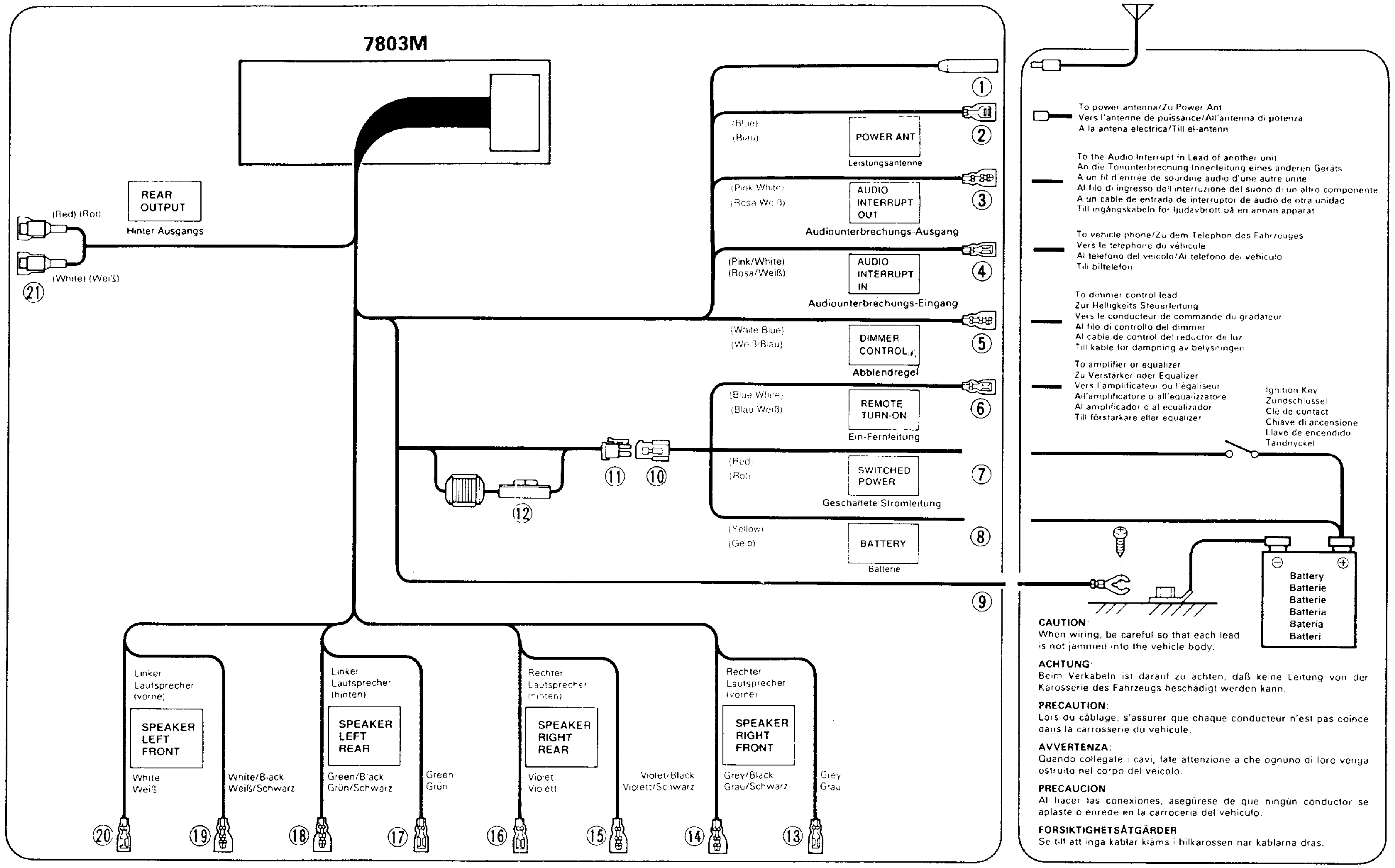
PRECAUCIONES CONCERNIENTES A LOS CABLES DE LOS ALTAVOCES:

- No conecte un conductor negativo (−) a otro conductor negativo (−).
- No conecte el conductor negativo (−) a un punto de puesta a tierra (GND) en el chasis.

FÖRSIKTIGHETSÅTGÄRDER ANGÅENDE HÖGTALARKABLARNA:

- Anslut inte en negativ kabel (−) till en annan negativ kabel (−), som anslutits gemensamt.
- Anslut inte en negativ kabel (−) till chassi-jord (GND).

7803M


REAR OUTPUT
Hinter Ausgangs
(Red) (Rot)
(White) (Weiß)
㉑
①
(Blue)
(Blau)
POWER ANT
Leistungsantenne
②
(Pink White)
(Rosa Weiß)
AUDIO INTERRUPT OUT
Audiounterbrechungs-Ausgang
③
(Pink/White)
(Rosa/Weiß)
AUDIO INTERRUPT IN
Audiounterbrechungs-Eingang
④
(White Blue)
(Weiß Blau)
DIMMER CONTROL
Abblendregel
⑤
(Blue White)
(Blau Weiß)
REMOTE TURN-ON
Ein-Fernleitung
⑥
(Red)
(Rot)
SWITCHED POWER
Geschaltete Stromleitung
⑦
(Yellow)
(Gelb)
BATTERY
Batterie
⑧
⑨
⑪
⑩
⑫
Linker
Lautsprecher
(vorne)
SPEAKER LEFT FRONT
White
Weiß
White/Black
Weiß/Schwarz
Linker
Lautsprecher
(hinten)
SPEAKER LEFT REAR
Green/Black
Grün/Schwarz
Green
Grün
Rechter
Lautsprecher
(hinten)
SPEAKER RIGHT REAR
Violet
Violett
Violet/Black
Violett/Schwarz
Rechter
Lautsprecher
(vorne)
SPEAKER RIGHT FRONT
Grey/Black
Grau/Schwarz
Grey
Grau
⑳
⑲
⑱
⑰
⑯
⑮
⑭
⑬
To power antenna/Zu Power Ant
Vers l'antenne de puissance/All'antenna di potenza
A la antena eléctrica/Till el-antenn
To the Audio Interrupt In Lead of another unit
An die Tonunterbrechung-Innenleitung eines anderen Geräts
A un fil d'entrée de sourdine audio d'une autre unite
Al filo di ingresso dell'interruzione del suono di un altro componente
A un cable de entrada de interruptor de audio de otra unidad
Till ingångskabeln för ljudavbrott på en annan apparat
To vehicle phone/Zu dem Telephon des Fahrzeuges
Vers le telephone du vehicule
Al telefono del veicolo/Al teléfono del vehiculo
Till biltelefon
To dimmer control lead
Zur Helligkeits Steuerleitung
Vers le conducteur de commande du gradateur
Al filo di controllo del dimmer
Al cable de control del reductor de luz
Till kable for dampning av belysningen
To amplifier or equalizer
Zu Verstärker oder Equalizer
Vers l'amplificateur ou l'égaliseur
All'amplificatore o all'equalizzatore
Al amplificador o al ecualizador
Till förstarkare eller equalizer
Ignition Key
Zundschlussel
Clé de contact
Chiave di accensione
Llave de encendido
Tändnyckel
Battery
Batterie
Batterie
Batteria
Bateria
Batteri

CAUTION:
When wiring, be careful so that each lead is not jammed into the vehicle body.

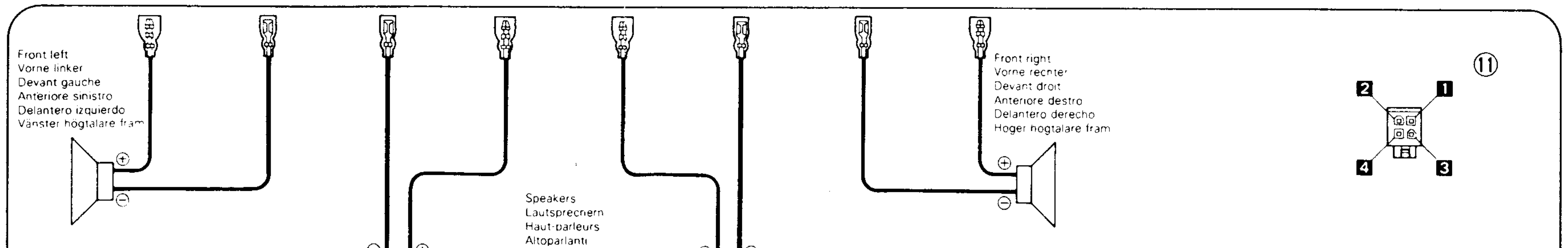
ACHTUNG:
Beim Verkabeln ist darauf zu achten, daß keine Leitung von der Karosserie des Fahrzeugs beschädigt werden kann.

PRECAUTION:
Lors du câblage, s'assurer que chaque conducteur n'est pas coincé dans la carrosserie du véhicule.

AVVERTENZA:
Quando collegate i cavi, fate attenzione a che ognuno di loro venga ostruito nel corpo del veicolo.

PRECAUCION
Al hacer las conexiones, asegúrese de que ningún conductor se aplaste o enrede en la carrocería del vehículo.

FÖRSIKTIGHETSÅTGÄRDER
Se till att inga kablar kläms i bilkarossen när kablarna dras.


Front left
Vorne linker
Devant gauche
Anteriore sinistro
Delantero izquierdo
Vänster högtalare fram
Rear left
Hinten linker
Arrière gauche
Posteriore sinistro
Trasero izquierdo
Vanster högtalare bak
Speakers
Lautsprechern
Haut-parleurs
Altoparlanti
Altavoces
Högtalare
Rear right
Hinten rechter
Arrière droit
Posteriore destro
Trasero derecho
Hoger högtalare bak
Front right
Vorne rechter
Devant droit
Anteriore destro
Delantero derecho
Hoger högtalare fram
⑪
1
2
3
4

1	REMOTE ON	Blue White (Blau Weiß)
2	IN PAUSE	Brown White (Braun Weiß)
3	BATTERY	Yellow (Gelb)
4	IGNITION	Red (Rot)

CONNECTIONS

① **Antenna Receptacle**

② **Power Antenna Lead (Blue)**
When loaded with a power antenna, connect
terminal of the power antenna.

③ **Audio Interrupt Out Lead (Pink/White)**

④ **Audio Interrupt In Lead (Pink/White)**

⑤ **Dimmer Control Lead (White/Blue)**
Connect this lead to the lead in the vehicle's par
circuit that provides (+)12V when the parking
turned on. This will dim the unit's backlightin
when the parking lights are on.

⑥ **Remote Turn-On Lead (Blue/White)**
Connect this lead to the remote turn-on lead of y
fier or signal processor.

⑦ **Switched Power Lead (Ignition) (Red)**
Connect this lead to an open terminal on the veh
box or another unused power source which
(+)12V only when the ignition is turned on or in
sory position.

⑧ **Battery Lead (Yellow)**
Connect this lead to the positive (+) post of th
battery.

⑨ **Ground Lead**
Connect this lead to a good chassis ground on th
Make sure the connection is made to bare me
securely fastened using the sheet metal screw pr

⑩ **Power Wiring Harness (Included)**
Connect to the Power Supply Connector ⑪.

⑪ **Power Supply Connector**
Connect to the receptacle of Power Wiring Harne

⑫ **Fuse Holder (5A)**

⑬ **Right Front Speaker Output Lead (Grey)**

⑭ **Right Front Speaker Output Lead (Grey/Black)**

⑮ **Right Rear Speaker Output Lead (Violet/Black)**

⑯ **Right Rear Speaker Output Lead (Violet)**

⑰ **Left Rear Speaker Output Lead (Green)**

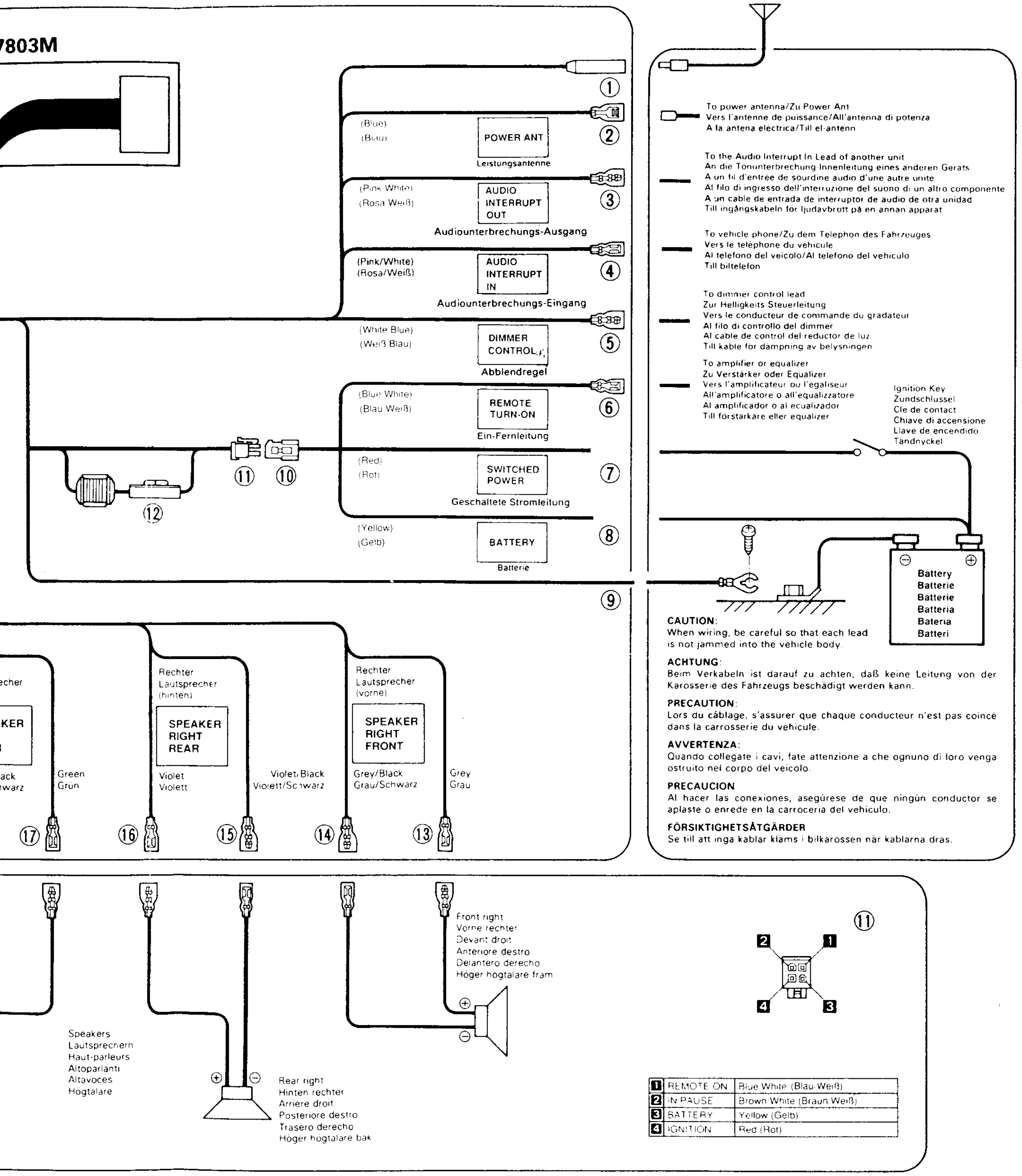
⑱ **Left Rear Speaker Output Lead (Green/Black)**

⑲ **Left Front Speaker Output Lead (White/Black)**

⑳ **Left Front Speaker Output Lead (White)**

㉑ **Rear Output RCA Connectors**
RED is right and WHITE is left.

CONNECTIONS


7803M
①
②
(Blue)
(Blau)
POWER ANT
Leistungsantenne
(Pink White)
(Rosa Weiß)
AUDIO INTERRUPT OUT
Audiounterbrechungs-Ausgang
③
(Pink/White)
(Rosa/Weiß)
AUDIO INTERRUPT IN
Audiounterbrechungs-Eingang
④
(White Blue)
(Weiß Blau)
DIMMER CONTROL
Abblendregel
⑤
(Blue White)
(Blau Weiß)
REMOTE TURN-ON
Ein-Fernleitung
⑥
⑪ ⑩
⑫
(Red)
(Rot)
SWITCHED POWER
Geschaltete Stromleitung
⑦
(Yellow)
(Gelb)
BATTERY
Batterie
⑧
⑨
To power antenna/Zu Power Ant
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To dimmer control lead
Zur Helligkeits-Steuerleitung
Vers le conducteur de commande du gradateur
Al filo di controllo del dimmer
Al cable de control del reductor de luz
Till kable för dämpning av belysningen
To amplifier or equalizer
Zu Verstärker oder Equalizer
Vers l'amplificateur ou l'égaliseur
All'amplificatore o all'equalizzatore
Al amplificador o al ecualizador
Till förstarkare eller equalizer
Ignition Key
Zundschlussel
Cle de contact
Chiave di accensione
Llave de encendido
Tändnyckel
Battery
Batterie
Batterie
Batteria
Bateria
Batteri
echer
KER
ack
warz
Green
Grün
Rechter
Lautsprecher
(hinten)
SPEAKER RIGHT REAR
Violet
Violett
Violet/Black
Violett/Schwarz
Rechter
Lautsprecher
(vorne)
SPEAKER RIGHT FRONT
Grey/Black
Grau/Schwarz
Grey
Grau
⑰ ⑯ ⑮ ⑭ ⑬
Front right
Vorne rechter
Devant droit
Anteriore destro
Delantero derecho
Höger högtalare fram
Speakers
Lautsprechern
Haut-parleurs
Altoparlanti
Altavoces
Högtalare
Rear right
Hinten rechter
Arrière droit
Posteriore destro
Trasero derecho
Höger högtalare bak
⑪
1
2
3
4

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PRECAUTION:
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AVVERTENZA:
Quando collegate i cavi, fate attenzione a che ognuno di loro venga ostruito nel corpo del veicolo.

PRECAUCION
Al hacer las conexiones, asegúrese de que ningún conductor se aplaste o enrede en la carroceria del vehiculo.

FÖRSIKTIGHETSÅTGÄRDER
Se till att inga kablar kläms i bilkarossen när kablarna dras.

1	REMOTE ON	Blue White (Blau Weiß)
2	IN PAUSE	Brown White (Braun Weiß)
3	BATTERY	Yellow (Gelb)
4	IGNITION	Red (Rot)

CONNECTIONS

① **Antenna Receptacle**

② **Power Antenna Lead (Blue)**
When loaded with a power antenna, connect to the +B terminal of the power antenna.

③ **Audio Interrupt Out Lead (Pink/White)**

④ **Audio Interrupt In Lead (Pink/White)**

⑤ **Dimmer Control Lead (White/Blue)**
Connect this lead to the lead in the vehicle's parking lights circuit that provides (+)12V when the parking lights are turned on. This will dim the unit's backlighting at night when the parking lights are on.

⑥ **Remote Turn-On Lead (Blue/White)**
Connect this lead to the remote turn-on lead of your amplifier or signal processor.

⑦ **Switched Power Lead (Ignition) (Red)**
Connect this lead to an open terminal on the vehicle's fuse box or another unused power source which provides (+)12V only when the ignition is turned on or in the accessory position.

⑧ **Battery Lead (Yellow)**
Connect this lead to the positive (+) post of the vehicle's battery.

⑨ **Ground Lead**
Connect this lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and is securely fastened using the sheet metal screw provided.

⑩ **Power Wiring Harness (Included)**
Connect to the Power Supply Connector ⑪.

⑪ **Power Supply Connector**
Connect to the receptacle of Power Wiring Harness ⑩.

⑫ **Fuse Holder (5A)**

⑬ **Right Front Speaker Output Lead (Grey)**

⑭ **Right Front Speaker Output Lead (Grey/Black)**

⑮ **Right Rear Speaker Output Lead (Violet/Black)**

⑯ **Right Rear Speaker Output Lead (Violet)**

⑰ **Left Rear Speaker Output Lead (Green)**

⑱ **Left Rear Speaker Output Lead (Green/Black)**

⑲ **Left Front Speaker Output Lead (White/Black)**

⑳ **Left Front Speaker Output Lead (White)**

㉑ **Rear Output RCA Connectors**
RED is right and WHITE is left.

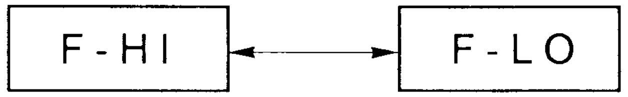
OPERATION

Indication example	Turn the Audio MODE Select switch.	
	Left	Right
VOL adjust. (−oo — 0) -26	Volume decrease -oo	Volume increase 0
TRE adjust. (−7 — +7) TR-4	Treble decrease TR-7	Treble increase TR+7
BAS adjust. (−7 — +7) BS-3	Bass decrease BS-7	Bass increase BS+7
BAL adjust. (— — 8) B---	Volume increase of left speaker BL 8	Volume increase of right speaker BR 8
FAD adjust. (— — 8) F---	Volume increase of rear speaker FR 8	Volume increase of front speaker FF 8

Switching the FM Volume

Use this function if the difference in volume is great when switching between a tape and the FM radio.

1. Press the TUNE switch ⑧ for 2 seconds.
2. Press the Preset No. 1 button ⑬ to switch the display between "F-HI" and "F-LO". The FM volume can be set to one of two positions, high or low. Set the position according to the broadcast station.



Four preset volume levels can be set for traffic information reception in the SDK mode.

1. Press the TUNE switch ⑧ for 2 seconds.
2. Press the Preset No. 2 button ⑬ to switch "LV-4" to LV-1".
   Select the desired level.

Two ways are selectable when traffic information reception signal is weak in the SDK mode.

1. Press the TUNE switch ⑧ for 2 seconds.
2. Press the Preset No. 3 button ⑬ to switch the display between "ALA" and "SRCH". When the ALA is selected, alarm goes off and when the SRCH is selected, other broadcast station is sought automatically.

Back lighting selection.

1. Press the TUNE switch ⑧ for 2 seconds.
2. Press the Preset No. 4 button ⑬ to switch the back lighting color between green and amber.
   To release this mode, press the TUNE switch ⑧ again.

● BASIC OPERATION

Initial System Start

When operating the system for the first time after installation or after the vehicle's battery has been disconnected and reconnected, set the volume level to its minimum, then carefully press the Reset switch ㉜ with a sharp pencil or any other pointed object.

How to adjust the volume and tone

1. Press the POWER button ㉙ to turn the unit on.
   (You can turn the unit on with any one of switches except for Eject button ⑦ and UP and DN switches ⑥ and ⑤.)
2. Press the Audio MODE Select switch ㉛ to select each adjusting mode.
   VOL → TRE → BAS → BAL → FAD → VOL · · · ·
   Everytime this switch is pressed, the mode changes. Each mode indicator is then On. The mode indicator changes as each mode is selected.
3. Once the desired mode appears in the display, rotate the Audio MODE Select switch to make your adjustment. The display will return to the previous mode indication after five seconds.

Power Off

Press the POWER button ㉙ to turn the unit off.

Cautions During CD Playback

Playing a disc while driving on a very bumpy road may result in skipping, but this will not scratch the disc or damage the player.

NOTES:

1. Your player accepts only one disc at a time for playback. Do not attempt to load more than one disc.
2. Make sure the label side is facing up when you insert the disc. Your player will automatically eject any disc that is inserted incorrectly. If the player continues to eject a correctly inserted disc, push the Reset switch ㉜ with a pointed object such as a sharp pencil.
3. You can play 3-inch CDs in this player without using an adaptor ring.
4. Make sure your discs are labeled as shown below:

COMPACT
disc
DIGITAL AUDIO

● RADIO OPERATION

If the unit is not in the Radio mode, press the BAND/TUNER button ⑨.

Tuning Band Selection

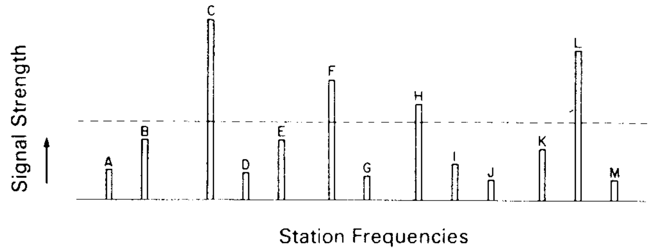
Press the BAND button ⑨ to select the desired tuning band. The Band indicator ⑮ shows your selection.

Local/Distance (DX) Sensitivity Switching for FM, MW and LW

You can select the radio SEEK sensitivity (local or distance (DX)) by pressing the DX switch ③ for more than two seconds.

In the distance mode, with DX indication ㉒, the radio tunes in both strong and weak stations (all stations from A to M in the illustration).

In the local mode, with no DX indication ㉒, the radio tunes in only strong stations (stations C, F, H and L in the illustration below).



FM Stereo/Monaural Switching

You can select between the Auto Switching or Monaural only for FM reception by pressing the MONO switch ③. In the Auto Switching mode, you can receive stereo broadcasts in stereo and monaural broadcasts in MONO. The STereo ⑲ or MONO indicator ⑱ shows you which one is being received. In the monaural mode, you will receive the broadcast in monaural only, even if the broadcast is in stereo. The monaural only mode quiets the noisy stereo signal of weaker broadcasts. The STereo indicator will not appear while the Monaural mode is selected.

Manual TUNING

1. Press the TUNE switch ⑧ until the SEEK ㉗ and A. MEMO ㉖ indicators disappear in the display.
2. To select the tuning band, press the BAND button ⑨. The Band indicator ⑮ shows your selection.
3. To tune to higher frequencies, press the M.S. · CD switch on the right (UP) ⑥. To tune to lower frequencies, press this same switch on the left (DowN) ⑤.

Auto SEEK Tuning

1. Press the TUNE switch ⑧ until the SEEK indicator ㉗ appears in the display.
2. Select the tuning band with the BAND button ⑨.
3. Press the UP ⑥ or DowN ⑤ switch. The unit automatically tunes to the next higher or lower frequency and locks on that station.

Manual Memory Preset

Follow the instructions below to enter stations into preset memory:

1. Select the tuning band (FM1, FM2, MW, LW) with the BAND button ⑨.
2. Tune in your desired station using Manual or Auto Seek tuning.
3. Press the Preset button number 1 ⑬ for more than two seconds. The matrix display ⑳ will begin to blink. The tuning band (FM1, FM2) can be changed by pressing the BAND button ⑨ if you wish to change bands. Press that preset button again while the display is blinking (within 5 seconds).
4. The frequency you selected will be placed into Preset Memory number 1 and will appear in the display.
   NOTE:
   If a preset memory has already been set in the same address, it will be cleared and the new station will be memorized.
5. Follow steps 2 — 3 for the remaining presets (2 — 6). This procedure should be followed for FM1, FM2, MW and LW.

NOTE:

While setting the memory presets you can switch back and forth between FM1 and FM2. However, while in this mode you cannot switch back and forth from MW/LW to FM.

Auto Memory Preset

1. Press the TUNE switch ⑧ to light up the A. MEMO indicator ㉖.
2. Select the desired tuning band (FM1, FM2, MW or LW) with the BAND button ⑨.
   NOTE:
   The Auto Memory Preset procedure is allowed in the D.A.P. Mode.
3. Press the UP ⑥ or DN ⑤ switch. The tuner will automatically seek the six strongest stations in the selected band and memorize them in order of their signal strength. These stations are automatically placed in the preset memory with the strongest station in Preset No. 1 and the 6th strongest station in Preset No. 6. When seeking stations, the tuner first seeks in the local tuning mode. If less than 6 stations are memorized, the tuner seeks again in the distance (DX) mode.
4. After finishing the Auto Memory Preset, the tuner goes to the station placed in Preset Memory No. 1. If no stations are memorized, it returns to the original station you were listening to before the Auto Memory Preset procedure began.

OPERATION

S:

ır player accepts only one disc at a time for playback. Do not attempt to load more n one disc.

ke sure the label side is facing up when you insert the disc. Your player will omatically eject any disc that is inserted incorrectly. If the player continues to eject orrectly inserted disc, push the Reset switch ㉜ with a pointed object such as a rp pencil.

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COMPACT
disc
DIGITAL AUDIO

)IO OPERATION

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ı Band Selection
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Distance (DX) Sensitivity Switching for FM, MW and LW
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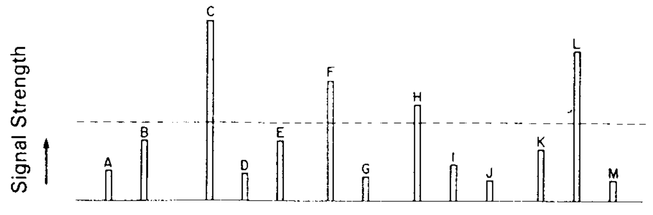

Station Frequencies

ereo/Monaural Switching
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OPERATION

Manual TUNING
1. Press the TUNE switch ⑧ until the SEEK ㉗ and A. MEMO ㉖ indicators disappear in the display.
2. To select the tuning band, press the BAND button ⑨. The Band indicator ⑮ shows your selection.
3. To tune to higher frequencies, press the M.S. · CD switch on the right (UP) ⑥. To tune to lower frequencies, press this same switch on the left (DowN) ⑤.

Auto SEEK Tuning
1. Press the TUNE switch ⑧ until the SEEK indicator ㉗ appears in the display.
2. Select the tuning band with the BAND button ⑨.
3. Press the UP ⑥ or DowN ⑤ switch The unit automatically tunes to the next higher or lower frequency and locks on that station.

Manual Memory Preset
Follow the instructions below to enter stations into preset memory:
1. Select the tuning band (FM1, FM2, MW, LW) with the BAND button ⑨.
2. Tune in your desired station using Manual or Auto Seek tuning.
3. Press the Preset button number 1 ⑬ for more than two seconds. The matrix display ⑳ will begin to blink. The tuning band (FM1, FM2) can be changed by pressing the BAND button ⑨ if you wish to change bands. Press that preset button again while the display is blinking (within 5 seconds).
4. The frequency you selected will be placed into Preset Memory number 1 and will appear in the display.
   NOTE:
   If a preset memory has already been set in the same address, it will be cleared and the new station will be memorized.
5. Follow steps 2 — 3 for the remaining presets (2 — 6). This procedure should be followed for FM1, FM2, MW and LW.

NOTE:
While setting the memory presets you can switch back and forth between FM1 and FM2. However, while in this mode you cannot switch back and forth from MW/LW to FM.

Auto Memory Preset
1. Press the TUNE switch ⑧ to light up the A. MEMO indicator ㉖.
2. Select the desired tuning band (FM1, FM2, MW or LW) with the BAND button ⑨.
   NOTE:
   The Auto Memory Preset procedure is allowed in the D.A.P. Mode.
3. Press the UP ⑥ or DN ⑤ switch. The tuner will automatically seek the six strongest stations in the selected band and memorize them in order of their signal strength. These stations are automatically placed in the preset memory with the strongest station in Preset No. 1 and the 6th strongest station in Preset No. 6. When seeking stations, the tuner first seeks in the local tuning mode. If less than 6 stations are memorized, the tuner seeks again in the distance (DX) mode.
4. After finishing the Auto Memory Preset, the tuner goes to the station placed in Preset Memory No. 1. If no stations are memorized, it returns to the original station you were listening to before the Auto Memory Preset procedure began.

OPERATION

Preset Tuning
After the preset stations have been memorized, you can tune in your desired station (within the band displayed) with one touch of a button.
1. Select the tuning band (FM1, FM2, MW or LW) with the BAND button ⑨.
2. Press any one of the Preset buttons ⑬ and the number of that preset will illuminate in the matrix display.
3. The frequency of the station placed in the selected preset location will appear in the display.

D.A.P. (Direct Access Presets)
This feature allows the storage of FM, MW and LW presets on the same band. Press the D.A.P. button ㉚ to light up the D.A.P. indicator ㉘. To program stations into the D.A.P. band, follow steps 1 — 3 as described in the Manual Memory Preset section.

Accessing the D.A.P. Presets
1. Press the D.A.P. button ㉚. The D.A.P. indicator ㉘ will illuminate in the display.
2. Press one of the preset buttons ⑬.
3. The frequency of the station placed in the selected D.A.P. location will appear in the display.

Preset Scan
In the radio mode, this feature locates the six radio stations preset in memory on each band (MW/LW, FM1, FM2 or D.A.P.) and plays 10 seconds for each station in numerical order from the Preset No. 1 to No. 6 until the preset scan mode is deactivated. For FM presets it will scan FM1, then FM2 and continue to cycle between these two bands.

When a preset station (No. 1 through No. 6) is being received, pressing the P. SCAN button ② activates the preset scan mode. Scanning begins with the next preset station. The preset scanning continues in order until this mode is deactivated by pressing the P. SCAN button ②, one of the Preset buttons ⑬, UP switch ⑥, DN switch ⑤, DISC (▶/❚❚) button ⑩ or BAND/TUNER button ⑨ for a second time.

When a station not stored in the preset scan memory is being received, pressing the P. SCAN button ② activates the preset scan mode and scans starting with "No. 1" on the same band you were receiving.

NOTE:
When the frequency of the preset memory station is weak, the preset scanning moves to the next preset memory station at once.

OPERATION

Traffic Information Receiving

This model is equipped with traffic information receiving apparatus to be used in West Germany where the traffic information is broadcast in FM. The following is how to use this unit to receive traffic information broadcasting.

1. Select FM position.
2. Depress the SDK switch ① and tune to a station. If the station is a traffic information station, the SK indicator ㉓ will glow and show the reception of a broadcast from a traffic information station.
   NOTE: SK Indicator
   When SK signal is received irrespective of the SDK switch position, the SK indicator will illuminate.
3. In the SDK mode, stations other than traffic information stations are muted and cut out. Therefore, it is easy to select a traffic information station.
4. As the signal of the tuned traffic information station becomes weak, the SK indicator will extinguish. Then after the lapse of 25 seconds, a rhythmical alarm will sound or another stronger station will be sought automatically depending on the mode selected. If the reception of further traffic information is required, tune in the desired traffic information station. When received, the alarm will stop and the SK indicator illuminates. Since the alarm will continue if no signals from any other traffic stations can be received, release the SDK switch for reception of normal broadcasting.
5. When the unit is playing a tape or a CD with the SDK switch pushed in and tuned to a traffic information station, the tape or CD play is interrupted and changed to FM radio if the pre-tuned station begins a traffic information message. When the message is over, the unit reverts to tape or CD play automatically.
6. Even if the Volume level is set to the minimum position, the volume of the traffic information will be automatically adjusted to the level preset by the special volume control on the left side of the unit. After the message, the sound volume returns to the previously adjusted level.
7. If traffic information reception is no longer necessary, release the SDK switch for normal radio reception.

NOTE:

When the SDK switch is pressed and there is no SK signal, ALARM will sound after the lapse of 25 seconds. Press the SDK switch again to stop it.

OPERATION

- **CD OPERATION**

If the unit is not in the CD mode, press the DISC button ⑩.

Load

1. Insert a disc into the DISC slot ④. When the disc is halfway in, the power loading system will pull the disc in and guide it into the play position.
2. If the disc is left at least halfway in, press the DISC button ⑩ or press the disc edge lightly to move it forward. "LOAd" will show in the display while loading.
3. When the unit is in the CD mode, the Digital Display ⑯ shows " T-00 " for a second while the data on the disc is read.
4. When a disc is loaded or ejected while the unit is in the tuner mode, it will automatically switch to the CD mode.

Track/Elapsed Time Display Switching

Press the DISP switch ⑧ for the Track Number being played and the Elapsed Time for the current track to be shown in the Digital Display ⑯. See below.

T-03

Track Mode

8'35

Time Mode

Normal Play (Repeat All)

1. Load the Disc.
2. The Digital Display ⑯ will show " T-00 " for a second, then " T-01 " will be displayed and the first track on the disc will begin playback.
3. After the last track on the disc is played back, the pickup will return to the beginning of the disc and begin playback from that point.

Disc Eject and Reload

Press the Eject button ⑦. The disc will come halfway out. If the eject status is maintained more than 15 seconds in case of 5-inch disc the self loading system will be automatically actuated and the disc will be reloaded into the mechanism and the player will be set to PAUSE mode.

PAU

Press the DISC ▶/❚❚ button ⑩ to resume playback. When using 3-inch discs, the eject status continues until the disc is pushed back in.

Pause

Press the DISC ▶/❚❚ button ⑩ to hold playback temporarily. The playback stops, but the disc remains inside the player. To resume playback, press the DISC ▶/❚❚ button ⑩ again.

OPERATION

Music Sensor (Skip)

This feature allows you to access the beginning of your musical track selection si
and quickly. It is functional in the play or pause mode. The Digital Display ⑯ shows
track number you have selected.

* To advance to the next track on the disc, press the ⏭ side of the M.S. · CD
⑥.
   1. Playback stops, the pickup moves up to the beginning of the next track. Tha
      number appears in the Digital Display ⑯.
   2. Playback begins immediately.
   3. If you wish to access a track further ahead on the disc, continue pressing th
      side of the M.S. · CD switch ⑥ until you reach the track of your choice.

* To replay the track that is currently playing, press the ⏮ side of the M.S. · C
switch ⑤.
   1. Playback stops, the pickup moves back to the beginning of the current track
      track number in the Digital Display ⑯ remains the same.
   2. Playback begins immediately from the beginning of the track.
   3. If you access a track further towards the beginning of the disc, continue pres
      the ⏮ side of the M.S. · CD switch ⑤ until you reach the track of your c

Fast Forward/Fast Backward

The Fast Forward/Fast Backward feature works in both play and pause modes.
1. Press either the M.S. · CD ⏭ ⑥ or the M.S. · CD ⏮ ⑤ switch and hold it for
   than 2 seconds.
2. To move the pickup forward rapidly, hold down the M.S. · CD UP ⏭ switch ⑥
3. To move the pickup backward rapidly, hold down the M.S. · CD DN ⏮ switch
4. When the pickup reaches the end of the disc, it automatically returns to the beg
   Playback will then start from the beginning of the disc.

REPEAT (One)

This feature allows you to continuously playback a single track.
1. Press the REPEAT button ⑫.
2. The musical track shown in the Digital Display ⑯ will be played back repeatedly
3. To defeat the Repeat function, press the REPEAT button a second time.

SCAN

Press this button and the player will playback the first 10 seconds of each track in
succession. This function is useful in searching for a specific program ahead on a di
Press the SCAN button ⑪ a second time to deactivate this function.

M.I.X. (Random Play)

Depress the M.I.X. button ⑭ while in the CD mode and the musical tracks will be
played back in a random sequence generated by the microprocessor. After all the tr
on the disc have been played back once, the player will begin a new random sequen

MODE SELECTION IN A COMBINED SYSTEM

When the 7803M is connected to another Alpine head unit, follow the procedures
below for changing modes of operation between head units.

1. If combined with an Alpine DAT player with an independent tuner mode select b
   any playback mode can be selected by pressing the desired function switch on a
   unit; i.e.; CD or tuner, etc. CD play can be activated by inserting a disc.
2. If combined with another source unit that does not have an independent tuner m
   select switch, the interaction of the 7803M will depend on the circuitry of that un
   example, if the other unit does not provide a "pause out" signal, you may have to
   press the Pause button ⑩ on the 7803M when switching from CD play to a func
   the other unit.

OPERATION

- **CD OPERATION**

If the unit is not in the CD mode, press the DISC button ⑩.

Load

1. Insert a disc into the DISC slot ④. When the disc is halfway in, the power loading system will pull the disc in and guide it into the play position.
2. If the disc is left at least halfway in, press the DISC button ⑩ or press the disc edge lightly to move it forward. "LOAd" will show in the display while loading.
3. When the unit is in the CD mode, the Digital Display ⑯ shows " T-00 " for a second while the data on the disc is read.
4. When a disc is loaded or ejected while the unit is in the tuner mode, it will automatically switch to the CD mode.

Track/Elapsed Time Display Switching

Press the DISP switch ⑧ for the Track Number being played and the Elapsed Time for the current track to be shown in the Digital Display ⑯. See below.

T-03	8'35
Track Mode	Time Mode

Normal Play (Repeat All)

1. Load the Disc.
2. The Digital Display ⑯ will show " T-00 " for a second, then " T-01 " will be displayed and the first track on the disc will begin playback.
3. After the last track on the disc is played back, the pickup will return to the beginning of the disc and begin playback from that point.

Disc Eject and Reload

Press the Eject button ⑦. The disc will come halfway out. If the eject status is maintained more than 15 seconds in case of 5-inch disc the self loading system will be automatically actuated and the disc will be reloaded into the mechanism and the player will be set to PAUSE mode.

PAU

Press the DISC ▶/❚❚ button ⑩ to resume playback. When using 3-inch discs, the eject status continues until the disc is pushed back in.

Pause

Press the DISC ▶/❚❚ button ⑩ to hold playback temporarily. The playback stops, but the disc remains inside the player. To resume playback, press the DISC ▶/❚❚ button ⑩ again.

OPERATION

Music Sensor (Skip)

This feature allows you to access the beginning of your musical track selection simply and quickly. It is functional in the play or pause mode. The Digital Display ⑯ shows the track number you have selected.

* To advance to the next track on the disc, press the ▶▶❙ side of the M.S. · CD switch ⑥.
  1. Playback stops, the pickup moves up to the beginning of the next track. That track number appears in the Digital Display ⑯.
  2. Playback begins immediately.
  3. If you wish to access a track further ahead on the disc, continue pressing the ▶▶❙ side of the M.S. · CD switch ⑥ until you reach the track of your choice.

* To replay the track that is currently playing, press the ❙◀◀ side of the M.S. · CD switch ⑤.
  1. Playback stops, the pickup moves back to the beginning of the current track. The track number in the Digital Display ⑯ remains the same.
  2. Playback begins immediately from the beginning of the track.
  3. If you access a track further towards the beginning of the disc, continue pressing the ❙◀◀ side of the M.S. · CD switch ⑤ until you reach the track of your choice.

Fast Forward/Fast Backward

The Fast Forward/Fast Backward feature works in both play and pause modes.

1. Press either the M.S. · CD ▶▶❙ ⑥ or the M.S. · CD ❙◀◀ ⑤ switch and hold it for more than 2 seconds.
2. To move the pickup forward rapidly, hold down the M.S. · CD UP ▶▶❙ switch ⑥.
3. To move the pickup backward rapidly, hold down the M.S. · CD DN ❙◀◀ switch ⑤.
4. When the pickup reaches the end of the disc, it automatically returns to the beginning. Playback will then start from the beginning of the disc.

REPEAT (One)

This feature allows you to continuously playback a single track.

1. Press the REPEAT button ⑫.
2. The musical track shown in the Digital Display ⑯ will be played back repeatedly.
3. To defeat the Repeat function, press the REPEAT button a second time.

SCAN

Press this button and the player will playback the first 10 seconds of each track in succession. This function is useful in searching for a specific program ahead on a disc. Press the SCAN button ⑪ a second time to deactivate this function.

M.I.X. (Random Play)

Depress the M.I.X. button ⑭ while in the CD mode and the musical tracks will be played back in a random sequence generated by the microprocessor. After all the tracks on the disc have been played back once, the player will begin a new random sequence.

MODE SELECTION IN A COMBINED SYSTEM

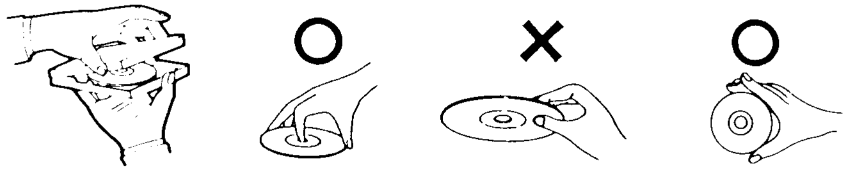
When the 7803M is connected to another Alpine head unit, follow the procedures below for changing modes of operation between head units.

1. If combined with an Alpine DAT player with an independent tuner mode select button, any playback mode can be selected by pressing the desired function switch on any unit; i.e.; CD or tuner, etc. CD play can be activated by inserting a disc.
2. If combined with another source unit that does not have an independent tuner mode select switch, the interaction of the 7803M will depend on the circuitry of that unit. For example, if the other unit does not provide a "pause out" signal, you may have to press the Pause button ⑩ on the 7803M when switching from CD play to a function of the other unit.

PROPER CARE OF YOUR DISC

Proper Handling

Handle your disc as shown. Do not drop the disc while handling. Hold the disc so you will not leave fingerprints on the surface. If the surface is scratched, it may cause the pickup to skip signal tracks. Do not affix tape, paper, or gummed labels on the disc. Do not write on the disc.



Keep Your Discs Clean

Fingerprints, dust, or soil on the surface could cause the pickup to skip signal tracks. For routine cleaning, wipe the playing surface with a clean, soft cloth from the center of the disc to the outer edge. If the surface is heavily soiled, dampen a clean soft cloth in a solution of mild neutral detergent before cleaning the disc. (Fig. A)

Disc Accessories

Various disc accessories for protecting disc surface and improving sound quality will be available on the market. However, most of them will give influence on thickness and diameter of the disc. Using such accessories will make the disc specifications out of the limit and may cause some troubles. So, do not use them with unit. (Fig. B)

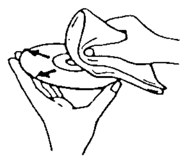


Fig. A

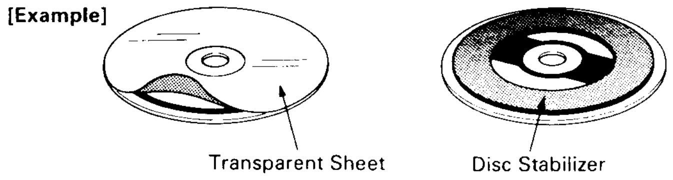


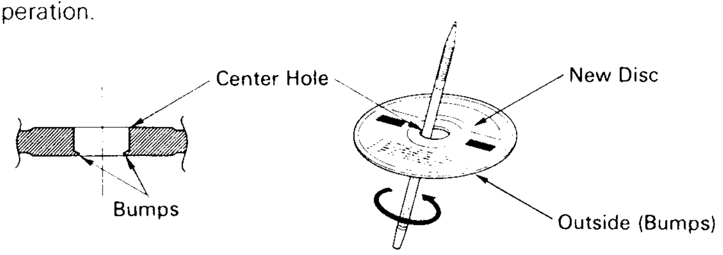
Fig. B

Caution for New Discs

When a newly purchased disc is inserted, it may be ejected after initial loading. This is caused by small bumps around the center hole and outside of the disc, which prevents stable loading to the correct position.
To remove the bumps, rub the inside edge of the hole and outside edge of the disc with a ball-point pen or other such instrument, then insert the disc again.

Please note

The mechanism automatically ejects such a disc as a protective measure, and this is not a faulty operation.



PRECAUTIONS

Eject Auto-Lock

Be sure to eject the compact disc from the player before removing the unit from the dash. It is necessary to remove the CD in order for the locking mechanism to be activated. Failure to do this may cause damage to the compact disc or the laser mechanism.

Thermal Protection Circuit

Be sure the temperature inside the vehicle is between +60°C (+140°F) and −10°C (+14°F) before attempting to play a disc. When the temperature is over +60°C (+140°F), the protection circuit functions to stop the CD player, and "HOT" is displayed.

Moisture Condensation

You may notice the playback sound wavering. When this happens, remove the disc from the player and wait about an hour until the moisture evaporates.

Handling of the Unit When Removed From Quick Release Bracket

When the 7803M is removed from the in-dash bracket, remember these care tips:

1. Do not drop or apply shock to the unit. It might cause permanent damage.
2. Keep the unit away from:
   a: Water and moisture
   b: Direct sun and heat
   c: Excessive dust
   d: Strong magnetic field such as an audio speaker, magnet, or TV.
3. Your authorized Alpine dealer carries an optional carrying case for transporting the player when it is out of the vehicle.

Damaged Disc

Do not attempt to play cracked, warped, or otherwise damaged discs. Playing a bad disc could severely damage the playback mechanism.

Storage

When not in use, place your discs in their individual cases and store them in a cool place away from the sun, heat, and dust.

Never Attempt the Following

Do not grip or pull out the disc while it is being pulled back into the player by the automatic reloading mechanism. (Fig. C)

Do not pull the unit out from the dash while a disc is playing. The disc will be unstable in the unit and may be damaged.

Do not attempt to insert a disc into the unit when the unit power is off.

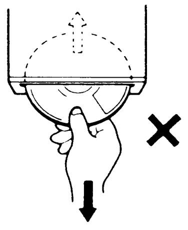


Fig. C

PRECAUTIONS

Installation Location

The 7803M is designed for in-dash mounting. For optimum performance, make sure the player will not be exposed to:

1. Direct sun and heat
2. High humidity
3. Excessive dust
4. Excessive vibrations.

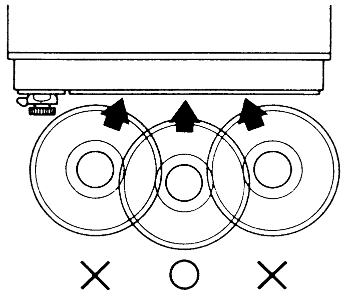
Caution During Playback

Playing a disc while driving on a very bumpy road may result in skips, but this will not scratch the disc or damage the player.

1. Your player accepts only one disc at a time for playback. Do not attempt to load more than one disc.
2. Make sure the label side is facing up when you insert the disc. Your player will automatically eject any disc that is inserted incorrectly. If the player continues to eject a correctly inserted disc, push the Reset switch ㉜ with a pointed object such as a sharp pencil.

Single CD

This unit allows direct mounting of a 3-inch disc without a CD adaptor and plays back the disc. However, the disc may be ejected in some cases without playing if there are bumps at the center hole of the disc, etc. In such a case, try to insert the disc into center of the disc insertion slot again.

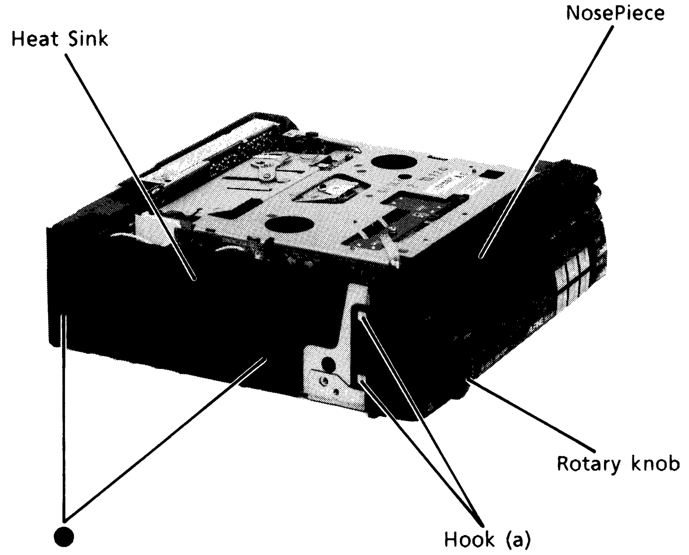


Disassembly Instructions

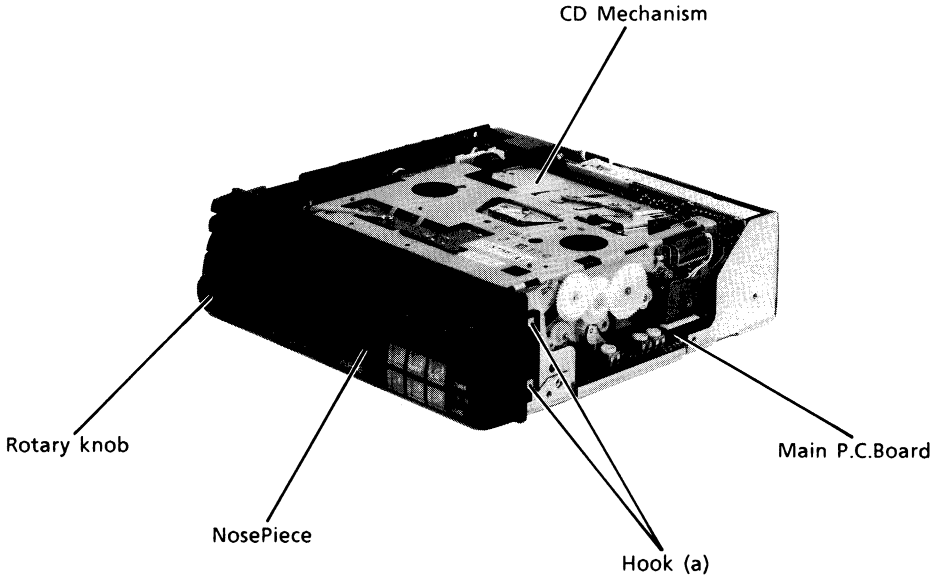
1. Removal of the Nosepiece

(1) After removal of the Top Cover, remove the Rotary knob as shown in Figure 1.

(2) Remove four Hooks (a) as shown in Figures 1 and 2.


Heat Sink
NosePiece
Rotary knob
●
Hook (a)

<Figure 1>

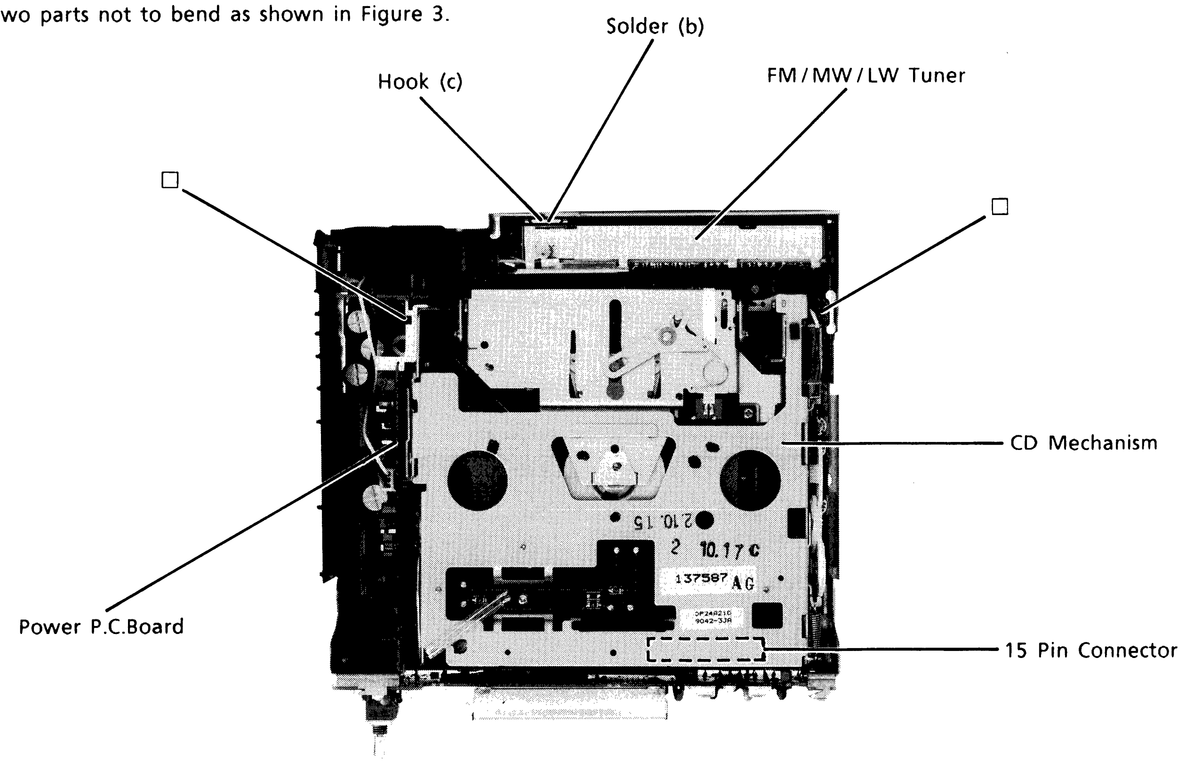

CD Mechanism
Rotary knob
Main P.C.Board
NosePiece
Hook (a)

<Figure 2>

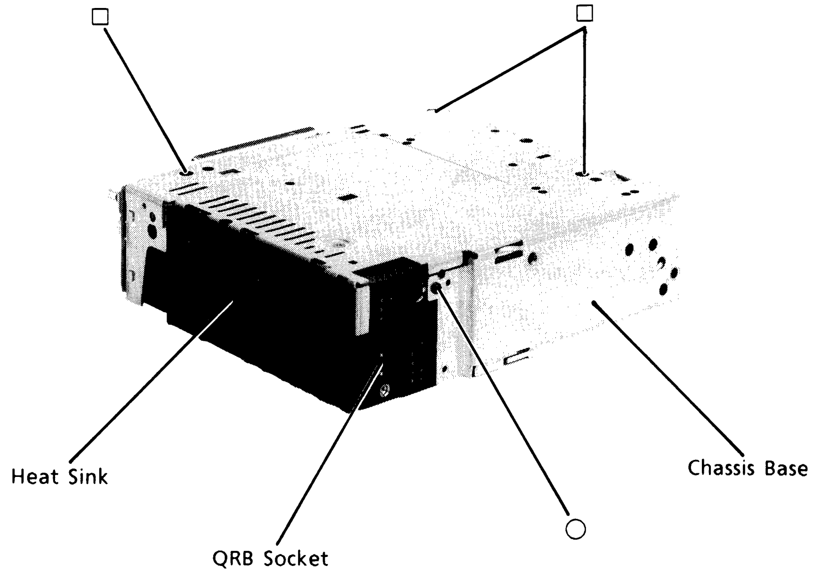
2. Removal of the CD Mechanism

(1) After removal of the Nosepiece and Power P. C. Board, remove five screws marked "□" as shown in Figures 3 and 4.

(2) Disconnect two Connectors from the Main P. C. Board.
To remove the CD Mechanism from the Main P. C. Board, pull up the CD Mechanism by little and little.
Give care to the 15-pins Connector which connect two parts not to bend as shown in Figure 3.


Solder (b)
Hook (c)
FM/MW/LW Tuner
□
□
CD Mechanism
Power P.C.Board
15 Pin Connector

<Figure 3>

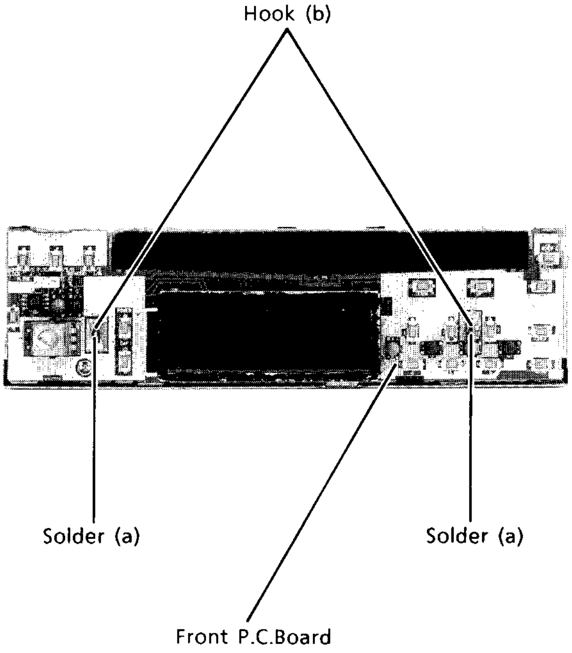

□
□
Heat Sink
Chassis Base
QRB Socket
○

<Figure 4>

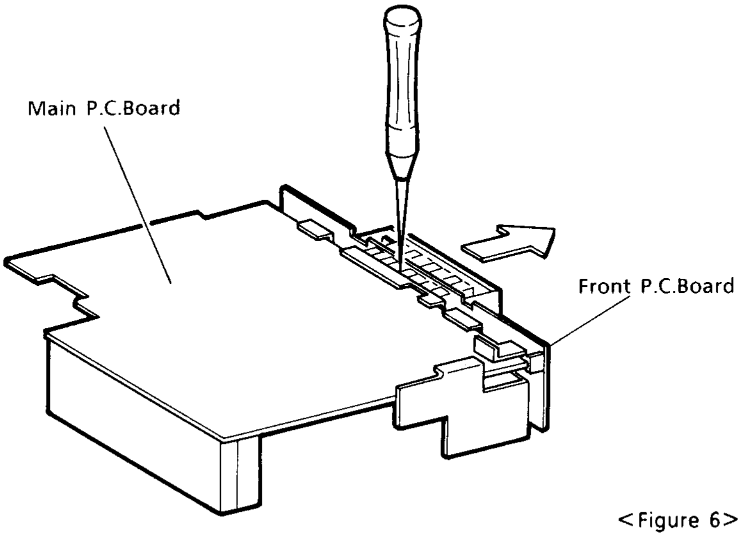
3. Removal of the Front P. C. Board

(1) After removal of the CD Mechanism, remove Solders (a) and two Hooks (b) as shown in Figure 5.
Disconnect the 20-pins Connector from the Main P. C. Board.
To make it easy, insert a thim stick object into an aperture and push out the Front P. C. Board as shown in Figure 6.

※ Notice for assembly the CD Mechanism and Front P. C. Board into the unit.
Give care to the 20-pins Connector between the Main and the Front P. C. Boards and the 15-pins Connector between the Main P. C. Board and the CD Mechanism not to bend them when assemblying the parts.



<Figure 5>



<Figure 6>

4. Removal of the IN/OUT P. C. Board

(1) After removal of the CD Mechanism, remove a Screw marked "○" as shown in Figure 4.

(2) Disconnect the Connector From the Power P. C. Board.
To removal of the IN/OUT P. C. Board from the Main P. C. Board, pull up the IN/OUT P. C. Board by little and little.

5. Removal of the Bottom Chassis

(1) After removal of the IN/OUT P. C. Board, remove Solders (b) and two Hooks (c) as shown in Figure 3.

(2) Remove two Screws marked "●" as shown in Figure 1.

Adjustment Procedures

1 FM SECTION

(1) Dummy Antenna Circuit

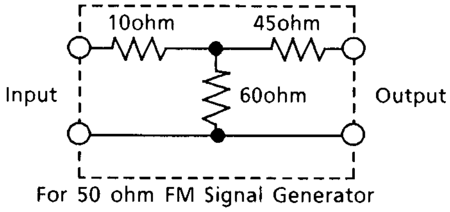

10ohm
45ohm
Input
60ohm
Output
For 50 ohm FM Signal Generator

Figure 7

(2) Connections

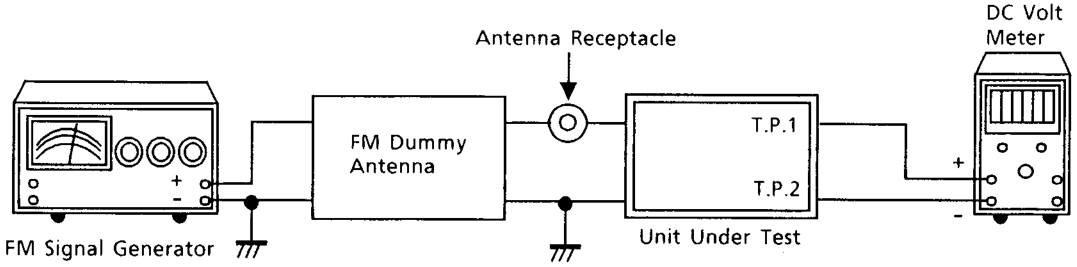

Antenna Receptacle
DC Volt Meter
FM Dummy Antenna
T.P.1
T.P.2
+
-
FM Signal Generator
Unit Under Test

Figure 8

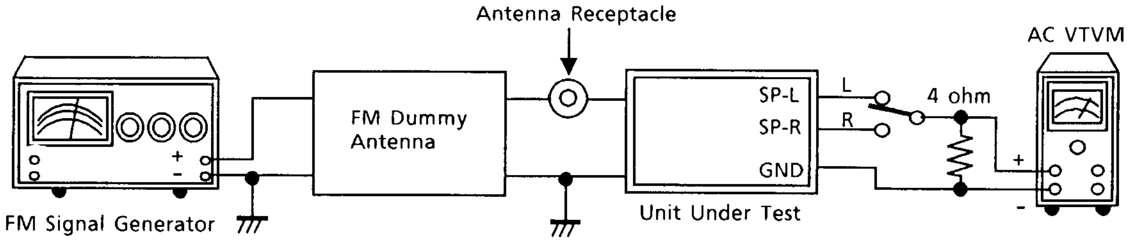

Antenna Receptacle
AC VTVM
FM Dummy Antenna
SP-L
SP-R
GND
L
R
4 ohm
+
-
FM Signal Generator
Unit Under Test

Figure 9

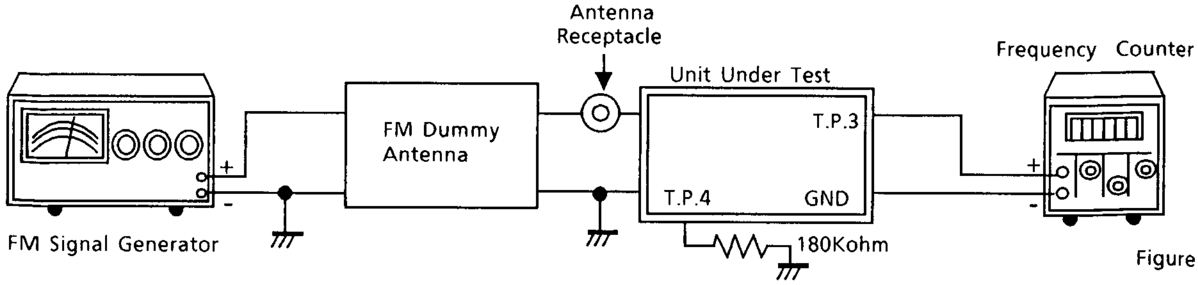

Antenna Receptacle
Frequency Counter
Unit Under Test
FM Dummy Antenna
T.P.3
T.P.4
GND
+
-
180Kohm
FM Signal Generator

Figure 10

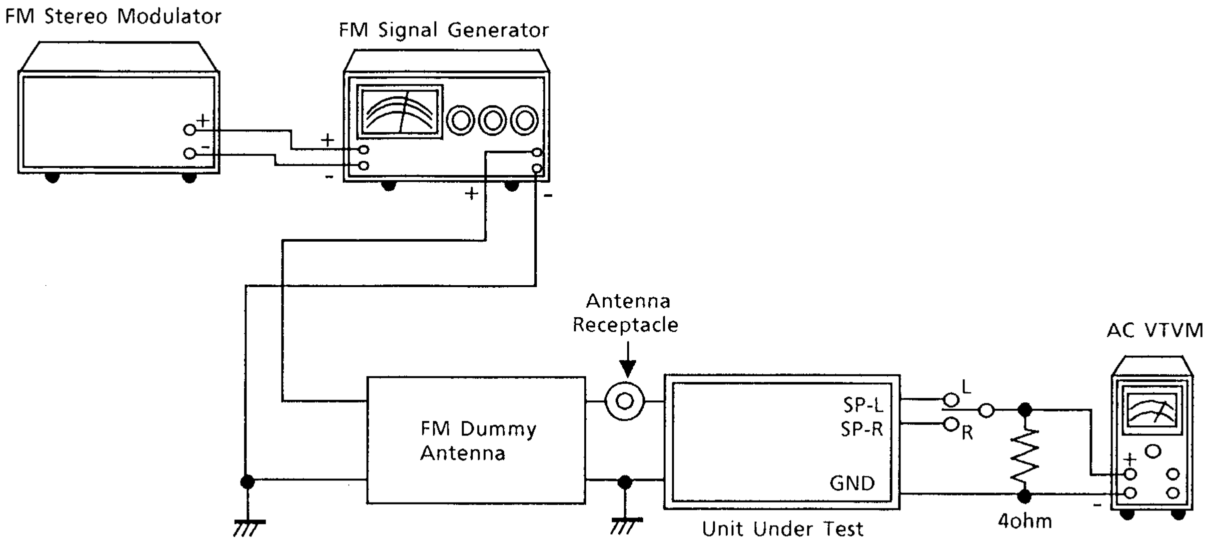

FM Stereo Modulator
FM Signal Generator
+
-
+
-
+
-
Antenna Receptacle
AC VTVM
FM Dummy Antenna
SP-L
SP-R
GND
L
R
Unit Under Test
4ohm
+
-

Figure 11

(3) Control Settings

Power Switch	ON
Fader Control	Front
Balance Control	Mechanical Center
Treble / Bass Control	Mechanical Center
Band Switch	FM
Others	OFF

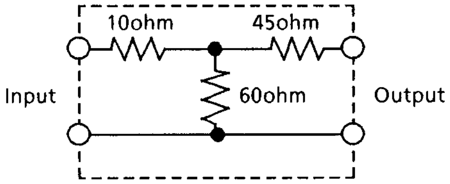
(4) Adjustment Procedures

Step	Description		Connection	Signal Generator	Dial Control	Test Point	Adjustment
1	IF Adjustment		Figure 8	98.1MHz, 54dB (Mod. OFF)	98.1MHz	T.P.1 T.P.2	T2101 for 0±30mV.
2	Noise Level Adjustment	(1)	Figure 9	98.1MHz, 54dB (Mod. 400Hz, Dev. 22.5kHz)	98.1MHz	Audio Output	Adjust S919 (VOLUME) to obtain 2V output This value is 0dB.
		(2)	Figure 9	98.1MHz, -13dB (Mod. 400Hz, Dev. 22.5kHz)	98.1MHz	Audio Output	Adjust VR2102 to 35±5dB output at SG level minimum.
3	VCO Adjustment		Figure 10	98.1MHz 54dB (Mod. 400Hz, Dev. 22.5kHz)	98.1MHz	T.P.3	Adjust VR001 to read 19±0.05KHz on Counter at T.P.3.
4	Stereo Separation Adjustment (Lch)		Figure 11	98.1MHz 54dB (Stereo Mod, Lch, only)	98.1MHz	Speaker Output	Adjust VR002 for Rch. output to be minimum, and confirm Lch. and Rch. output level difference is more than 25dB.

Step	Description	Connection	Signal Generator	Dial Control	Test Point	Adjustment
5	Stereo Blend Adjustment (Lch)	Figure 11	98.1MHz 28dB (Stereo Mod, Lch, only)	98.1MHz	Speaker Output	Adjust VR003 for Lch and Rch output level difference to be 8±3dB.
6	Stereo Separation Adjustment (Rch)	Figure 11	98.1MHz 54dB (Stereo Mod, Rch, only)	98.1MHz	Speaker Output	Proceed same adjustment under step 4 by alternating Lch and Rch.
7	Stereo Blend Adjustment (Rch)	Figure 11	98.1MHz 28dB (Stereo Mod, Rch, only)	98.1MHz	Speaker Output	Proceed same adjustment under step 5.

2 SDK SECTION

(1) Dummy Antenna Circuit


10ohm
45ohm
Input
60ohm
Output

For 50 ohm FM Signal Generator

Figure 12

(2) Connections

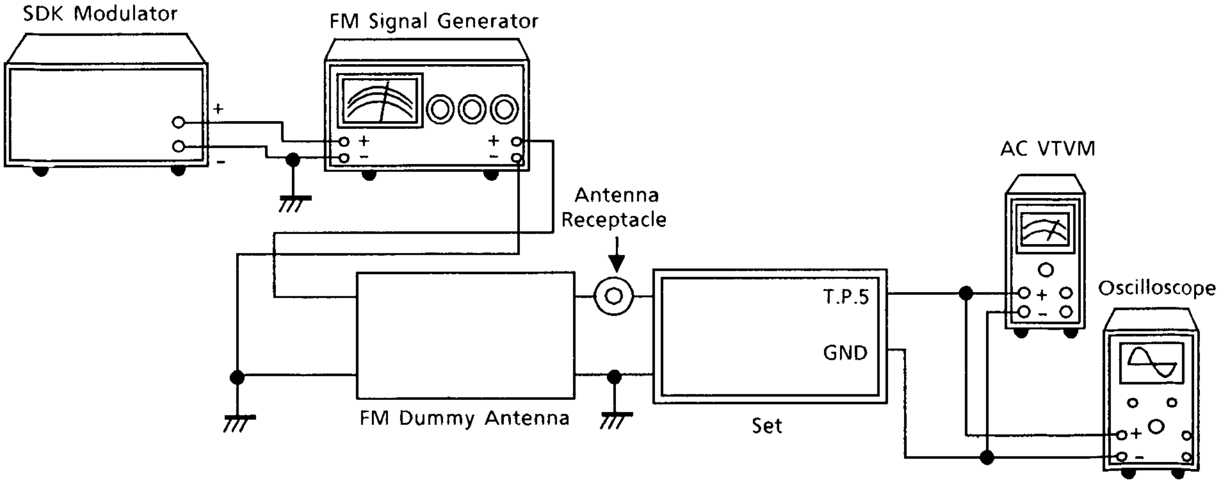

SDK Modulator
+
-
FM Signal Generator
+
-
+
-
Antenna Receptacle
FM Dummy Antenna
T.P.5
GND
Set
AC VTVM
+
-
Oscilloscope
+
-

Figure 13

(2) Control Settings

Power Switch	ON	Treble/Bass Control	Mechanical Center
Band Select Switch	SDK	Fader Control	Front
Balance Control	Mechanical Center	Others	OFF

(3) Adjustment Procedures

Step	Description	Connection	Signal Generator	Dial Control	Test Point	Adjustment
1	DK Adjustment	Figure 13	98.1MHz, 54dB (SK, BK, DK : ON) (Mod, 1kHz Dev. 75kHz)	98.1MHz	T.P.5	VR004 for Maximum Output.

3 Compact Disc SECTION

(1) Connections

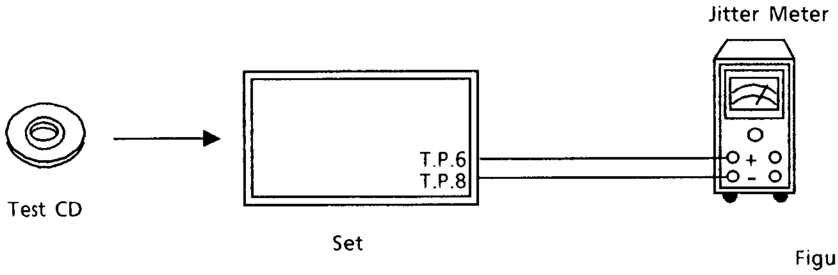

Jitter Meter
Test CD
T.P.6
T.P.8
Set
+
-

Figure 14

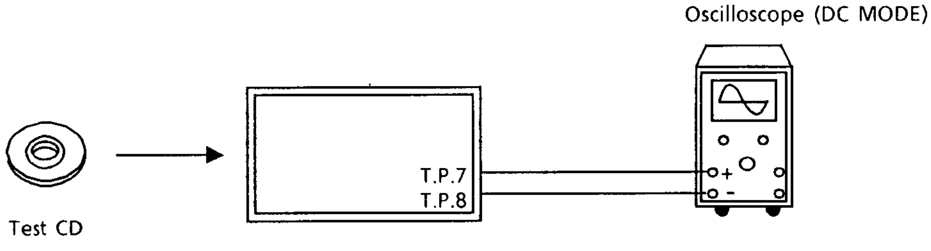

Oscilloscope (DC MODE)
Test CD
T.P.7
T.P.8
Set
+
-

Figure 15

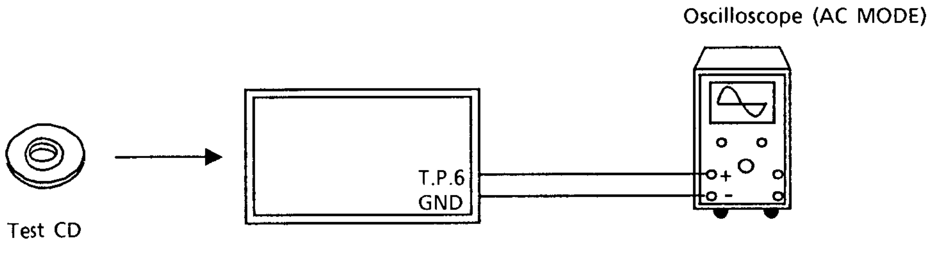

Oscilloscope (AC MODE)
Test CD
T.P.6
GND
Set
+
-

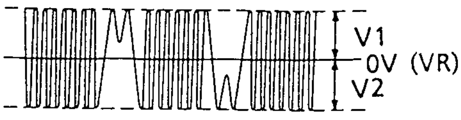
Figure 16

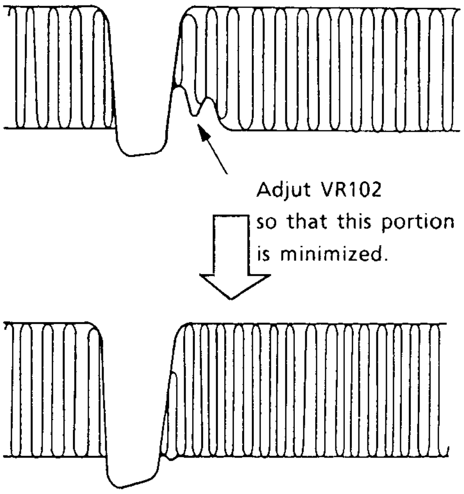
(2) Control Settings

Power SW	ON
Fader Control	Front
Balance Control	Mechanical Center
Treble / Bass Control	Mechanical Center
Others	OFF

(3) The necessaries for adjustment
DP - S Extension Cord
Assy., EX Cord Kit for DP2 Mechanism
Part No. 01V00282S01
See Adjustment Locations (Figure 17)

(4) Adjustment Procedures

Step	Description	Test CD	Connection	Test Point	Adjustment Point	Adjustment
1	Jitter Adjustment	TCD-782 Track No.1 (A-BEX)	Figure 14	T.P.6 T.P.8	VR103	① : Set the mode to playback with the test disc loaded. ② : Using the jitter meter, measure the T.P.7 signal. ③ : First, rotate VR103 fully counter-clockwise. ④ : Next, carefully rote VR103 clockwise untill the jitter meter shows a minimum value and then increases by +0.5nS from the minimum value.
2	Tracking Balance Adjustment	TCD-782 Track No.1 (A-BEX)	Figure 15	T.P.7 T.P.8	VR101	① : Set the mode to playback with the test disc loaded. ② : Use wire to connect T.P.8 to T.P.9. ③ : Using the oscilloscope, measure the T.P.7 signal in reference to VR. (VR standard = 0V) ④ : Adjust VR101 so that the positive and negative deflection widths of the T.P.7 signal are at the same level, relative to VR (0V). (The entire waveform moves up and down.)  V1 = V2 ⑤ : After adjustment, remove the wire connecting to T.P.8 to T.P.9

Step	Description	Test CD	Connection	Test Point	Adjustment Point	Adjustment
3	Tracking Offset Adjustment	TCD-721 Track No.6 (A-BEX)	Figure 16	T.P.6	VR102	① : Set the mode to playback with the test disc loaded. ② : Using the oscilloscope, measure the T.P.6 signal. ③ : Adjust VR102 in order to minimize the waveform induced by the reaction to the omission of the T.P.6 signal. ④ : Conduct the tracking balance adjustment once again.  Adjut VR102 so that this portion is minimized.

Adjustment Locations

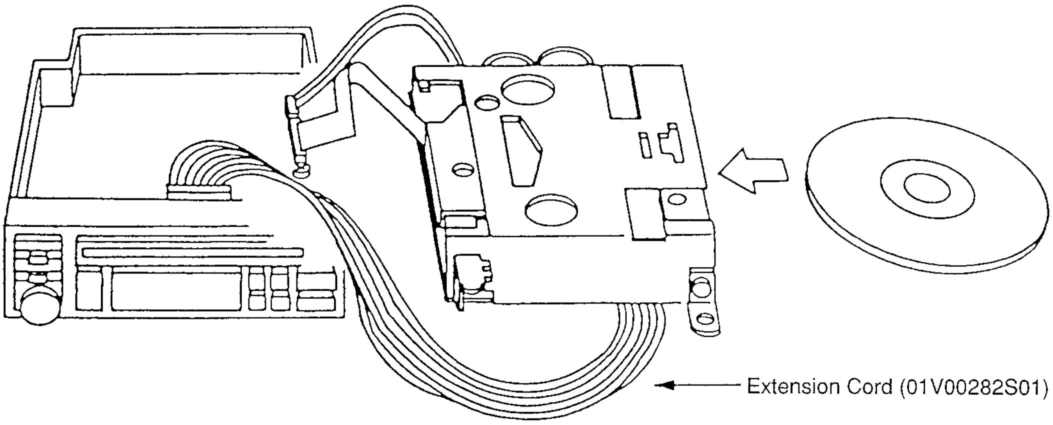

Extension Cord (01V00282S01)

Figure 17

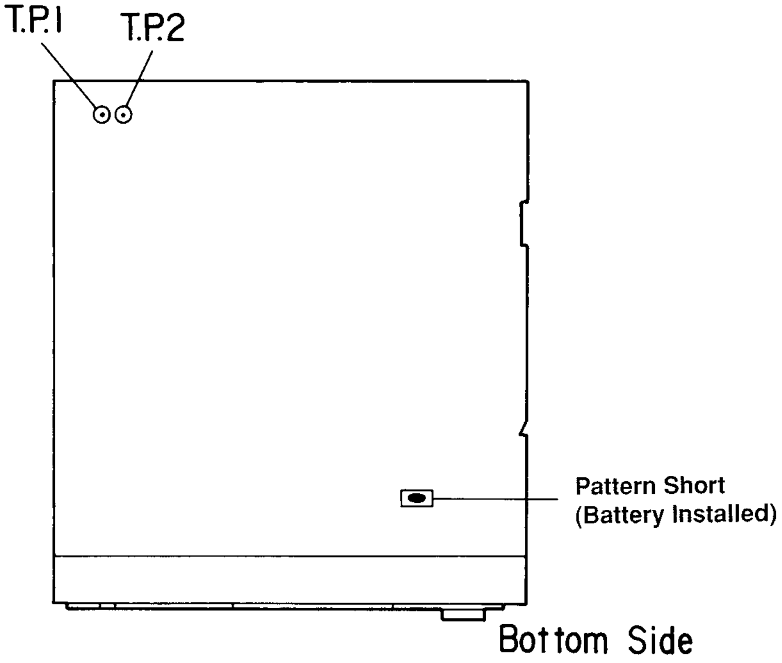

T.P.1
T.P.2
Pattern Short
(Battery Installed)
Bottom Side

Figure 18

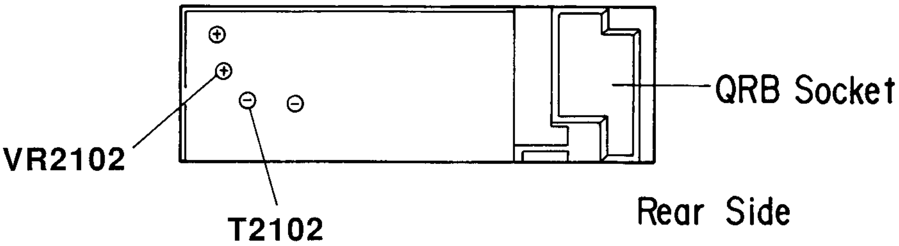
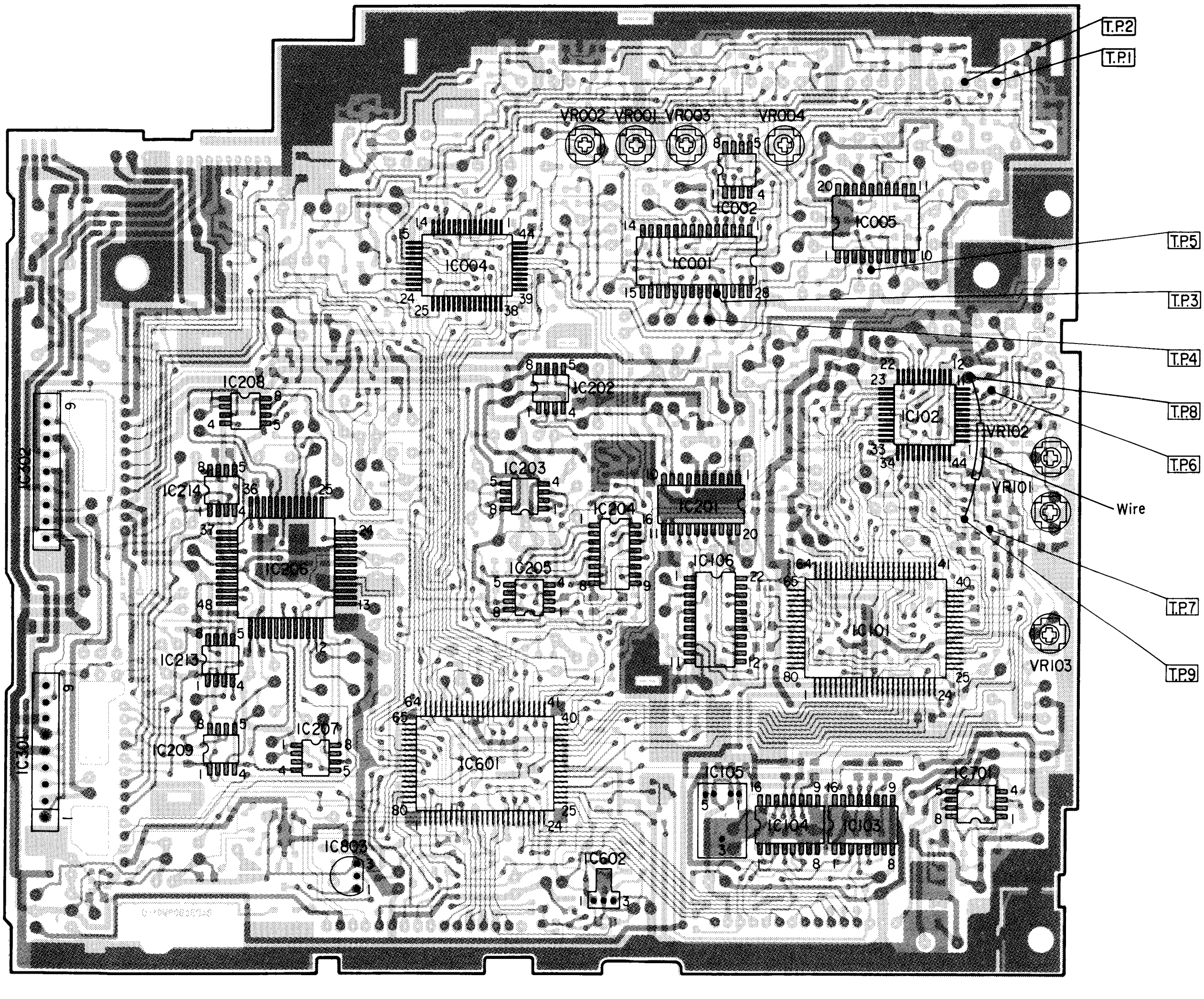

VR2102
T2102
QRB Socket
Rear Side

Figure 19


T.P.2
T.P.1
VR002
VR001
VR003
VR004
IC002
IC005
IC004
IC001
T.P.5
T.P.3
T.P.4
IC208
IC202
IC102
T.P.8
VR102
T.P.6
IC214
IC203
IC204
IC201
VR101
Wire
IC206
IC205
IC106
IC101
T.P.7
IC213
VR103
T.P.9
IC301
IC302
IC209
IC207
IC601
IC105
IC104
IC103
IC701
IC802
IC602

Main P.C. Board (Compornent Side)

Electrical Inspection Specification

1. Measuring Conditions

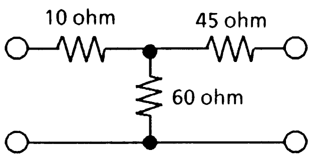
(1) Power Supply : DC14 ± 0.2V
(2) Load Impedance : Pre Out 10kohm
(3) Power Output : 500mV
(4) Signal Generator Output : SG Indication (SG of OPEN Indication)
(5) Control Settings
  Fader — Front Position
  Balance — Center position
  Treble — Center Position
  Bass — Center Position
(6) Standard Modulations

(FM) Mono : 400Hz 22.5kHz Deviation
Stereo : 1kHz
Pilot : 8%

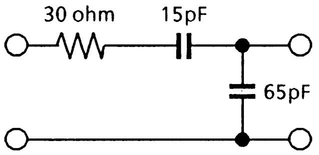
(MW/LW) 30% 400Hz

(7) Dummy Antenna

FM



MW/LW



2. FM Inspection

Step	Item		SG				Spec.
			f (MHz)	Input(dB)	Mod.	ST.	
1	Usable Senstitvity		90.1	6	OFF	OFF	S/N more than 30dB
			106.1	6	OFF	OFF	S/N more than 30dB
2	Stop Level (DX)	To be not Stopped	98.1	9	ON	OFF	15 ± 5dB
		To be Stopped	98.1	20	ON	OFF	
	Stop Level (LOC)	To be not Stopped	98.1	34	ON	OFF	45 ± 10dB
		To be Stopped	98.1	55	ON	OFF	
3	Distortion		98.1	60	ON	OFF	less than 1%
4	Stereo Separation		98.1	60	ON	ON:1kHz Rch only	more than 25dB (1kHz B.P.F)
5	Stereo Blend		98.1	31~37	ON	ON:1kHz Rch only	8dB
6	FM Level		98.1	60	ON	OFF	FM Level Hi. Ref LO : -6 ± 3dB
7	Hi-Cut		98.1	-14	ON	ON 10kHz	0 to 9dB

Step	Item		SG				Spec
			ƒ (MHz)	Input(dB)	Mod.	ST.	
8	TONE Control	TREBLE (10kHz)	98.1	60	ON	OFF	MAX. +12±3dB
							MIN. -12±3dB
		BASS (30Hz)	98.1	60	ON	OFF	MAX. +15±4dB
							MIN. -15±4dB

3. MW Inspection

Step	Item		SG			Spec
			ƒ (kHz)	Input(dB)	Mod.	
1	Usable Sensitivity		999	34	OFF	S/N more than 20dB
2	Stop Level (DX)	To be not Stopped	999	23	ON	
		To be Stopped	999	44	ON	34±10dB
	Stop Level (LOC)	To be not Stopped	999	41	ON	
		To be Stopped	999	86	ON	L/D 30±12dB
3	Distortion		999	74	ON	less than 2%
4	Level difference from FM level		999	74	ON	0±3dB

4. LW Inspection

Step	Item		SG			Spec
			ƒ (kHz)	Input(dB)	Mod.	
1	Usable Sensitivity		216	41	OFF	S/N more than 20dB
2	Stop Level (DX)	To be not Stopped	216	23	ON	
		To be Stopped	216	44	ON	34±10dB
	Stop Level (LOC)	To be not Stopped	216	41	ON	
		To be Stopped	216	86	ON	L/D 30±12dB
3	Distortion		216	74	ON	less than 2%

5. SDK Inspection

Step	Item	SG				Spec
		f (kHz)	Input(dB)	Mod.	ST.	
1	SK Lighting	98.1	14	SK, DK ON	OFF	less than 14dB
2	Alarm SEEK Check	98.1	60	SK, BK, DK OFF	OFF	25 ± 10 sec.
3	Cut In Output Check	98.1	60	SK, BK, DK ON	OFF	More than 100mV.
4	CD Pause Check	98.1	60	SK, BK, DK ON	OFF	Should be pause with DISC Inserted.

Operation Check

Note : For details on operation, refer to Owner's Manual.

1. Radio Operations

(1) To be changed in order of FM1→FM2→MW or LW, each time the **BAND** key is pushed.
(2) To be changed in order of SEEK→A.MEMO→Manual SEEK, each time the **TUNE** key is pushed.
(3) Check SEEK and Manual SEEK operations using **UP/DN** keys.
(4) Push **D.A.P** key. .... **D.A.P** indicator should be turned on.

FM and MW or LW can be memorized at random.
(5) Check Preset status with keys 1 to 6.
(6) **DX** key on .... **DX** indicator should be turned on.
(7) **MO** key on .... **MONO** indicator should be turned on.
(8) Check Auto Memory operation.
(9) Push **P.SCAN** key .... Stations memorized should be scanned with indicators 1 to 6 blinking.
(10) Check Balance operation.
(11) Check Fader operation.

2. CD Operatios

(1) MUSIC SENSOR	① The Track No. must be incremented by one at each push of the **M.S. CD** up (⏭) switch. ② When the **M.S. CD** down (⏮) switch pushed ouce, playback position must be returned to beginning of the program being play back. Moreover, when switch is pushed successively more than two times, the Track No. must be decremented by one.
(2) FWD, BWD	① While the **M.S. CD** up (⏭) switch is being pushed continuously, the time indication must be incremented in fast forward mode. ② While the **M.S. CD** down (⏮) switch is being pushed continuously, the time indication must be incremented in back ward mode.
(3) REPEAT	With the **REPEAT** switch turned on, one program must be repeated and the switch turned off all programs must be repeated.
(4) SCAN	Check SCAN operation with **P. SCAN** key on.
(5) PAUSE	Check PAUSE operation with **DISC** key on.
(6) M.I.X.	Check **M.I.X.** indicator and music order is changed at random with **M.I.X.** key on.
(7) RESET	When the reset switch (-/L/R) is turned on, the power must be turned off temporarily.
(8) SINGLE CD	Insert a single CD to the slot from each of right side, left side and center of the slot, and make sure chucking operation is mode correctly and a program is played back correctly.
(9) EJECT	Push the eject button (⏏) and check the eject operation. Under this condition, the CD must be reloaded automatically after 15 seconds.
(10) DISP CHANGE	Turn the **DISP** switch on and off, the TIME indication and the Track No. indication must be switched each other.
(11) MODE CHANGE	To be changed in order of VOL→TRE→BAL→FAD, each time the Audio MODE select switch is pushed.
(12) LIGHTING CHANGE ...	Push the **DISP** switch for more than 2 seconds and push the preset switch **(4)** and make sure the lighting color is changed to green or amber.

Description of IC Terminals

35246W01 (IC004)

No.	Symbol	I/O	Terminal Description
1	E01	O	PLL error output terminal : Develops "H" output when OSC frequency is higher than reference signal, and "L" output when low. When both are coincided, the terminal is floated.
2	NC	—	N.C.
3	V_{DD}	—	Power supply terminal.
4	NC	—	N.C.
5	VCOH	I	FM / AM VCO input terminal.
6	CE	I	High level input during ignition on.
7	V_{DD}	—	Power supply terminal.
8	NC	—	N.C.
9	MONO	O	Monaural control signal output terminal.
10	NC	—	N.C.
11	NC	—	N.C.
12	AM IF	I	AM IF input terminal.
13	FM IF	I	FM IF input terminal.
14	COMMAND	I	Input terminal for serial data sent from main microcomputer.
15	$\overline{\text{SCK}}$	O	Sync signal clock output terminal.
16	STATUS	O	Serial data output terminal for main microcomputer.
17	START	O	Output terminal for communication command sync signal to microcomputer.
18	$\overline{\text{MUTE}}$	O	DTS mute output terminal (active low)
19	LOCAL	O	High during local seek tuned in.
20	XO	O	X'tal element (4.5MHz) connection terminal.
21	XI	I	
22	GND	—	GND.
23	NC	—	N.C.
24	TUNER ON	O	High during tuner tuned in.
25	B3	O	FM / AM (MW / LW) switching
26	B2		
27	B1		

No.	Symbol	I/O	Terminal Description
28 ~ 41	NC	—	N.C.
42	GND	—	GND
43	DK	I	DK signal input.
44	$\overline{\text{SK}}$	I	SK Signal input.
45	$\overline{\text{STEREO}}$	I	Low level in stereo mode.
46	SD	I	High level input during seek stop.
47	S. METER	I	FM/AM signal input terminal.
48	CI	I	Initial selection terminal. X'tal OSC in standby mode. OSC is pulled up.

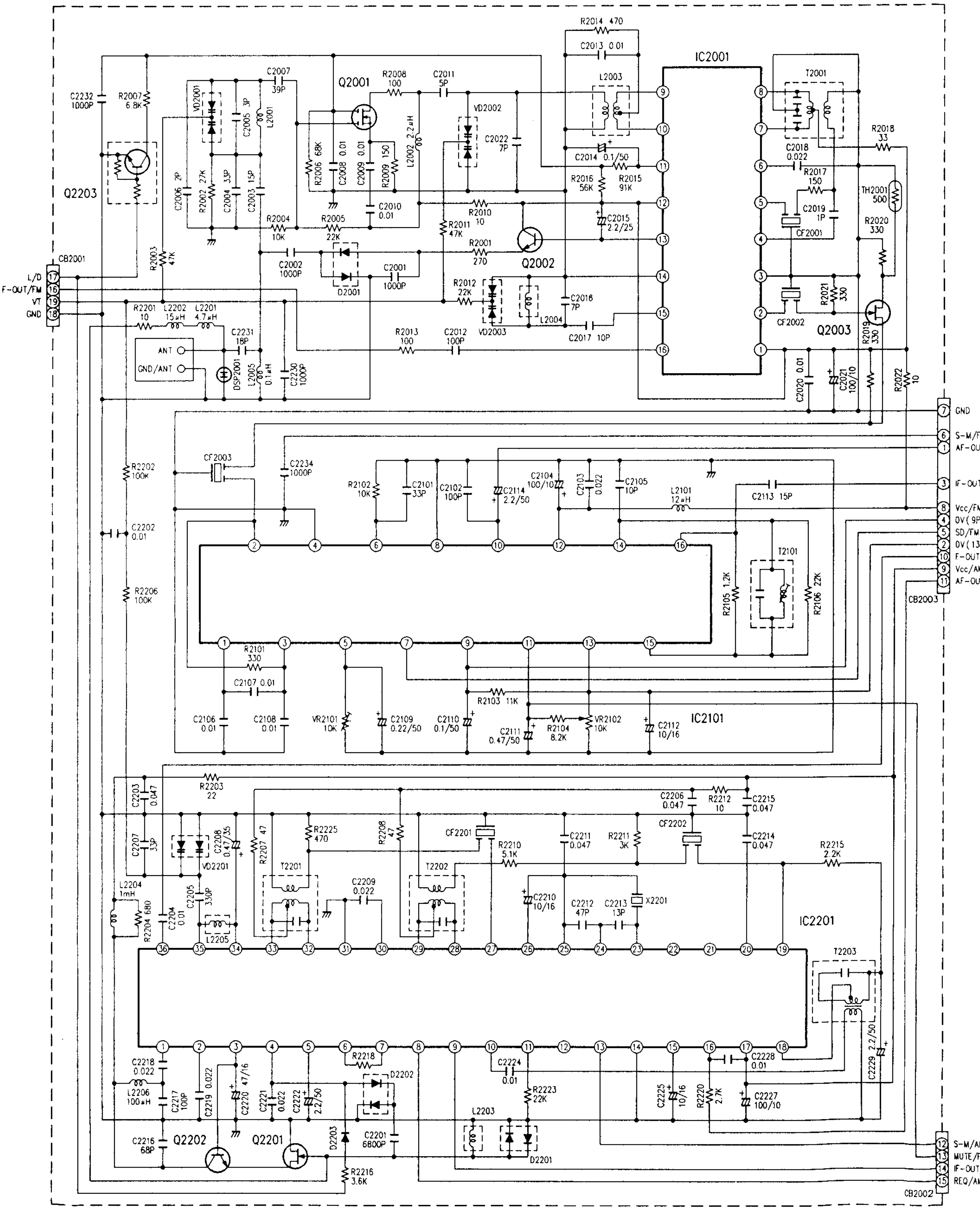
16449W15 (IC601)

No.	Symbol	I/O	Terminal Description
1	GND	—	GND.
2	AVREF	I	Reference voltage input for A/D converter. (V-OUT 5V)
3	V_{DD}	—	Power supply terminal. (BATT. 5V)
4	V_{DD}	—	Power supply terminal. (BATT. 5V)
5	$\overline{\text{V-OUT}}$	O	Output Supply to AVREF. (BATT. 5V PULL UP)
6	GND	—	GND.
7	GND	—	GND.
8	GND	—	GND.
9	LCD-INH	O	LCD INH Output. (P-cH, NcH Pushpull Output)
10	LCD-DATA	O	LCD DATA Output. (P-cH, NcH Pushpull Output)
11	LCD-CLOCK	O	LCD CLOCK Output. (P-cH, NcH Pushpull Output)
12	LCD-CE	O	LCD CE Output. (P-cH, NcH Pushpull Output)
13	NC	—	N.C.
14	NC	—	N.C.
15	AMBER	O	AMBER/$\overline{\text{GREEN}}$ LIGHT change output.
16	W. DOG OUT	O	W. DOG Output 20mS Periodic square wave.
17	AREA 1	I	Area set up. (VOUT PULL UP)
18	AREA 2	I	Area set up. (VOUT PULL UP)

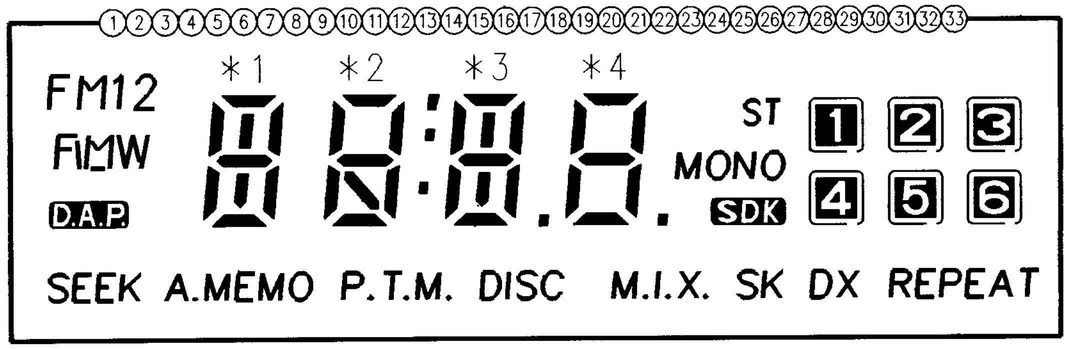
No.	Symbol	I/O	Terminal Description
19	AREA 3	I	CLOCK, SDK set up. (V-OUT PULL UP)
20	$\overline{\text{LIMIT-SW}}$	I	LIMIT SW. Input. (ACTIVE LO, V-OUT PULL UP)
21	8-END	I	8cm DISC END Detector. (Load Cont SW. 5V PULL UP)
22	RELOAD	I	RELOAD Detector. (Load Cont SW. 5V PULL UP)
23	EJECT-END	I	EJECT END Detector. (Load Cont SW. 5V PULL UP)
24	DISC-IN	I	DISC IN Detector. (Load Cont SW. 5V PULL UP)
25	LOAD-BWD	O	LOADING MOTOR BWD Driving output.
26	LOAD-FWD	O	LOADING MOTOR FWD Driving output.
27	LOAD-CONT	O	DISC Detector Power supply control.
28	V-CONT	O	Power supply control to CD.
29	$\overline{\text{PULL UP SW}}$	O	Power supply control to μ-COM PULL UP. (BATT. 5V PULL UP)
30	F-CONT	O	FOUCS SERVO gain switching terminal. (SERVO 5V PULL UP)
31	FM LEVEL	O	FM AUDIO LEVEL switching terminal. (Hi SW. 5V PULL UP)
32	$\overline{\text{CD-RESET}}$	O	Signal management LSI Digitalfilter. (SERVO 5V PULL UP)
33	GND	—	GND.
34	BUS3	I/O	Command data 3 to servo controller.
35	BUS2	I/O	Command data 2 to servo controller.
36	BUS1	I/O	Command data 1 to servo controller.
37	BUS0	I/O	Command data 0 to servo controller.
38	CCE	O	CE Output to servo controller.
39	BUCK	O	CLOCK Output to servo controller.
40	LOCK	O	LOCK status input terminal.
41	$\overline{\text{CAM-END}}$	O	CAM END SW. Detector. (V-OUT 5V PULL UP)
42	SOLENOID	O	Clamp solenoid drive output.
43	$\overline{\text{A-MUTE}}$	O	Audio mute output.
44	$\overline{\text{CD}}$/TUNER	O	CD/TUNER AUDIO switching output.
45	ALARM	O	SDK ALARM output. (500Hz)
46	DTS-START	I	DTS START Input.
47	A-HOLD	I	ACC ON/OFF Detector.
48	B-HOLD	I	Coercive standby detector.
49	DTS-MUTE	I	DTS MUTE Input.
50	STS	I	DTS STATUS Input.
51	CMD	O	DTS COMMAND Output. (V-OUT PULL UP)

No.	Symbol	I/O	Terminal Description
52	CLOCK	I	DTS CLOCK Input. (V-OUT PULL UP)
53	GND	—	GND.
54	GND	—	GND.
55	GND	—	GND.
56	NC	—	N.C.
57	GND	—	GND.
58	X1	I	System clock input. (4.19MHz)
59	X2	O	System clock output.
60	$\overline{\text{RESET}}$	I	System reset input.
61	GND	—	GND.
62	$\overline{\text{TP}}$ (GND)	—	GND.
63	$\overline{\text{IN-PAUSE}}$	I	Mutual reset, pause input. (V-OUT PULL UP)
64	$\overline{\text{IN-INT}}$	I	Mutual reset, interrupt input. (SW. 5V PULL UP)
65	$\overline{\text{SDK-TONE}}$	O	Multiplexor switching output. (ACTIVE LO, SW. 5V PULL UP)
66	DTS-CE	O	DTS CE Output. (V-OUT PULL UP)
67	O-INT	O	AUDIO INTERRUPT Output. (SW. 5V PULL UP)
68	O-REM	O	Multual reset, Out remote Output. (SW. 5V PULL UP)
69	POWER-ON	O	POWER ON Output. (SW. 5V PULL UP)
70	EV-INH	O	Electroric Volume INH output. (SW. 5V PULL UP)
71	EV-DATA	O	Electroric Volume DATA output. (SW. 5V PULL UP)
72	EV-CLOCK	O	Electroric Volume CLOCK output. (SW. 5V PULL UP)
73	GND	—	GND.
74	ENCOD-DOWN	I	Encoder (DOWN) input. (SW. 5V PULL UP)
75	ENCOD-UP	I	Encoder (UP) input. (SW. 5V PULL UP)
76	GND	—	GND.
77	T-SENSE	I	Temperature senser input. (POWER ON 5V PULL UP)
78	KEY-A/D0	I	KEY input. (V-OUT PULL UP)
79	KEY-A/D1	I	KEY input. (V-OUT PULL UP)
80	KEY-A/D2	I	KEY input. (V-OUT PULL UP)

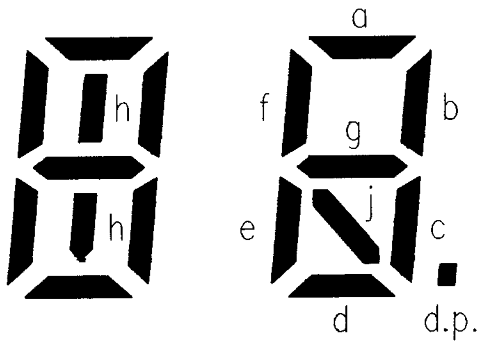
Tuner Schematic Diagram


R2014 470
C2013 0.01
IC2001
T2001
C2232 1000P
R2007 6.8K
C2007 39P
Q2001
R2008 100
C2011 5P
VD2001
C2005 3P
L2001
VD2002
L2003
C2022 7P
R2018 33
C2018 0.022
C2014 0.1/50
R2017 150
R2006 68K
C2008 0.01
C2009 0.01
R2009 150
L2002 2.2μH
R2016 56K
R2015 91K
C2019 1P
TH2001 500
Q2203
C2006 2P
R2002 27K
C2004 33P
C2003 15P
R2004 10K
R2005 22K
C2010 0.01
R2010 10
R2011 47K
C2015 2.2/25
CF2001
R2020 330
R2001 270
Q2002
C2002 1000P
D2001
C2001 1000P
R2003 47K
CB2001
L/D
F-OUT/FM
VT
GND
R2012 22K
C2016 7P
L2004
VD2003
C2017 10P
R2021 330
CF2002
Q2003
R2201 10
L2202 15μH
L2201 4.7μH
C2231 18P
ANT
GND/ANT
DSP2001
L2005 0.1μH
C2230 1000P
R2013 100
C2012 100P
R2019 330
C2020 0.01
C2021 100/10
R2022 10
GND
S-M/F
AF-OU
IF-OUT
Vcc/FM
0V(9P
SD/FM
0V(13
F-OUT
Vcc/AM
AF-OU
CB2003
CF2003
C2234 1000P
R2202 100K
R2102 10K
C2101 33P
C2102 100P
C2114 2.2/50
C2104 100/10
C2103 0.022
C2105 10P
L2101 12μH
C2113 15P
C2202 0.01
T2101
R2105 1.2K
R2106 22K
R2206 100K
R2101 330
C2107 0.01
R2103 11K
C2106 0.01
C2108 0.01
VR2101 10K
C2109 0.22/50
C2110 0.1/50
C2111 0.47/50
R2104 8.2K
VR2102 10K
C2112 10/16
IC2101
R2203 22
C2203 0.047
C2206 0.047
R2212 10
C2215 0.047
C2207 33P
VD2201
C2208 0.47/35
R2207 47
R2225 470
R2208 47
CF2201
R2210 5.1K
C2211 0.047
R2211 3K
CF2202
C2214 0.047
R2215 2.2K
T2201
C2209 0.022
T2202
L2204 1mH
R2204 680
C2204 0.01
C2205 330P
L2205
C2210 10/16
C2212 47P
C2213 13P
X2201
IC2201
T2203
C2229 2.2/50
C2218 0.022
L2206 100μH
C2217 100P
C2219 0.022
C2220 47/16
C2221 0.022
C2222 2.2/50
R2218
D2202
C2224 0.01
R2223 22K
C2225 10/16
R2220 2.7K
C2228 0.01
C2227 100/10
C2216 68P
Q2202
Q2201
D2203
C2201 6800P
L2203
D2201
R2216 3.6K
S-M/AM
MUTE/F
IF-OUT
REQ/AM
CB2002

LCD Display

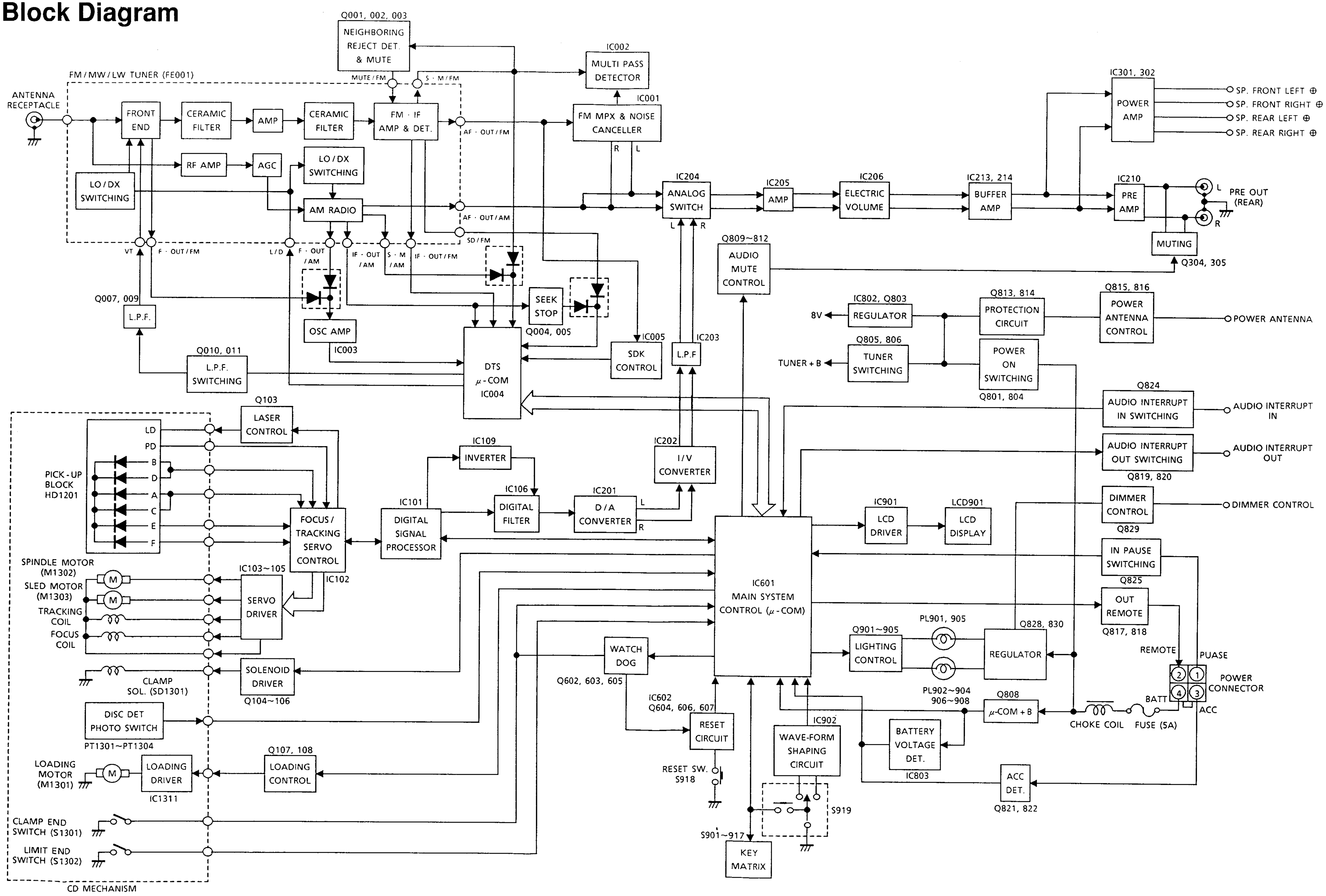

①②③④⑤⑥⑦⑧⑨⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝
FM12
AMW
D.A.P.
*1
*2
*3
*4
ST
MONO
SDK
1 2 3
4 5 6
SEEK A.MEMO P.T.M. DISC M.I.X. SK DX REPEAT

NOTE: *1~4

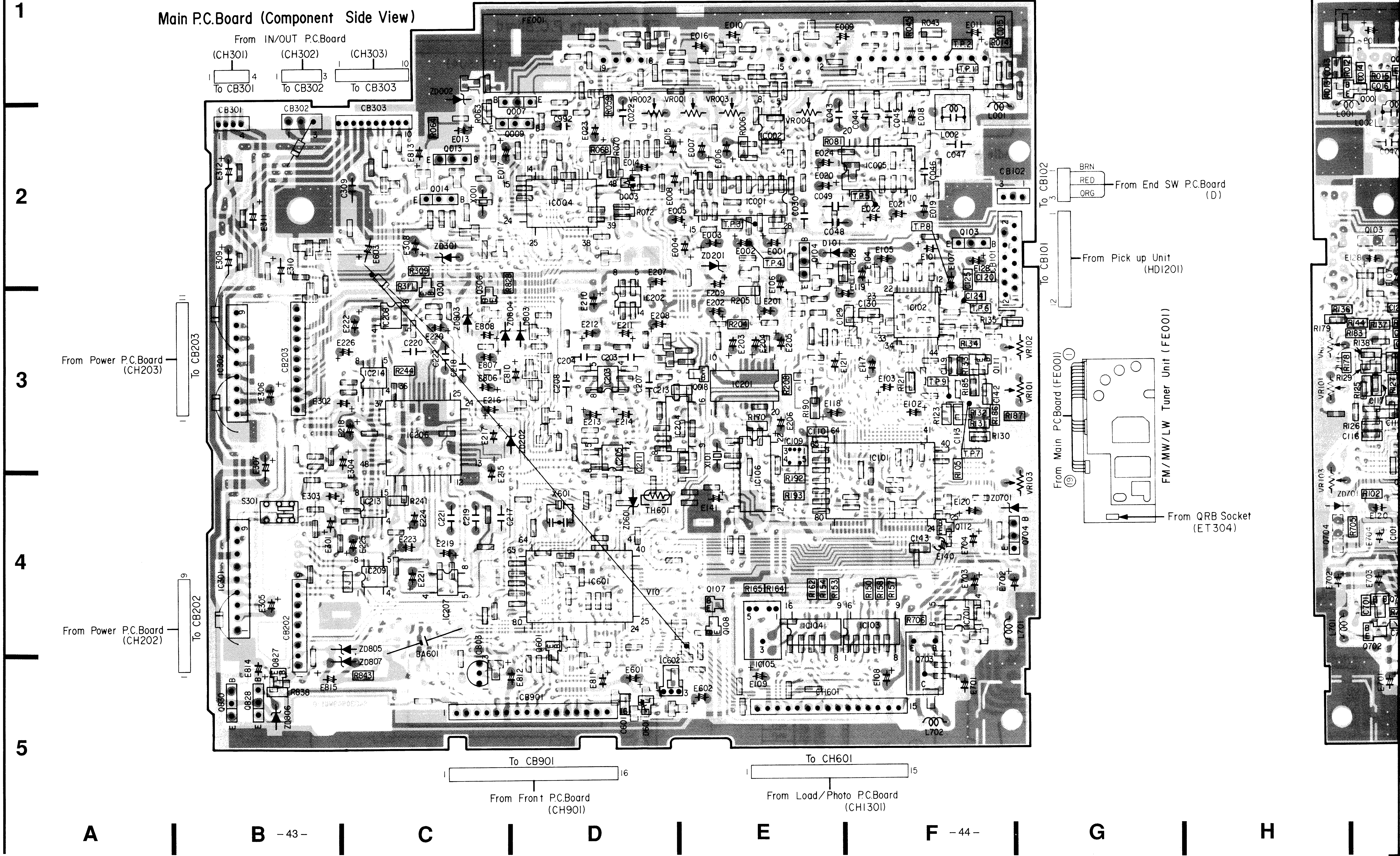

a
h
h
f
g
b
e
j
c
d
d.p.

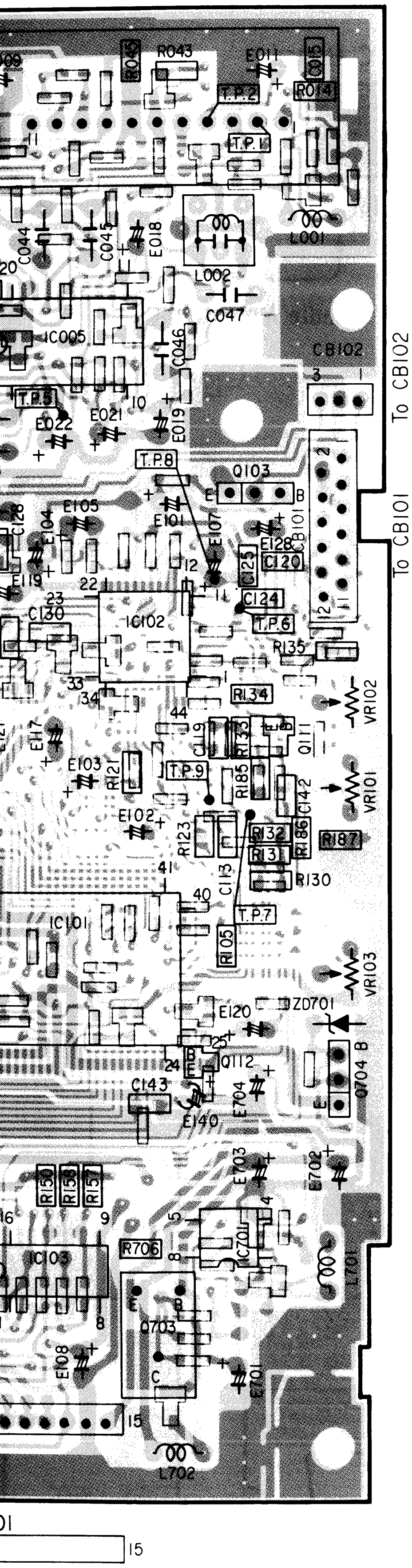
No.	COM1	COM2	No.	COM1	COM2	No.	COM1	COM2
1	COM1	–	12	1c	1h	23	4e	4d
2	–	COM2	13	2e	2d	24	4f	4g
3	SEEK	D.A.P.	14	2f	2g	25	4b	4a
4	FM	M	15	2b	2a	26	4c	4d.p.
5	1	2	16	2c	2i	27	ST	MONO
6	A	M	17	:	▪	28	SDK	M.I.X.
7	W	M	18	DISC	3d.p.	29	DX	SK
8	A.MEMO	P.T.M.	19	3e	3d	30	REPEAT	□□□ □□□
9	1e	1d	20	3f	3g	31	1	4
10	1f	1g	21	3b	3a	32	2	5
11	1b	1a	22	3c	3h	33	3	6

Block Diagram

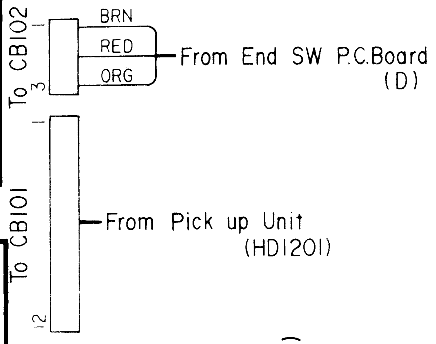

Q001, 002, 003
NEIGHBORING REJECT DET. & MUTE
MUTE/FM
S·M/FM
FM/MW/LW TUNER (FE001)
ANTENNA RECEPTACLE
FRONT END
CERAMIC FILTER
AMP
CERAMIC FILTER
FM·IF AMP & DET.
AF·OUT/FM
RF AMP
AGC
LO/DX SWITCHING
LO/DX SWITCHING
AM RADIO
AF·OUT/AM
SD/FM
VT
F·OUT/FM
L/D
F·OUT/AM
IF·OUT/AM
S·M/AM
IF·OUT/FM
Q007, 009
L.P.F.
OSC AMP
IC003
SEEK STOP
Q004, 005
Q010, 011
L.P.F. SWITCHING
DTS μ-COM IC004
IC002
MULTI PASS DETECTOR
IC001
FM MPX & NOISE CANCELLER
R
L
IC005
SDK CONTROL
IC203
L.P.F
IC204
ANALOG SWITCH
L
R
IC205
AMP
IC206
ELECTRIC VOLUME
IC213, 214
BUFFER AMP
IC301, 302
POWER AMP
SP. FRONT LEFT ⊕
SP. FRONT RIGHT ⊕
SP. REAR LEFT ⊕
SP. REAR RIGHT ⊕
IC210
PRE AMP
L
R
PRE OUT (REAR)
MUTING
Q304, 305
Q809~812
AUDIO MUTE CONTROL
IC802, Q803
8V
REGULATOR
Q805, 806
TUNER +B
TUNER SWITCHING
Q813, 814
PROTECTION CIRCUIT
POWER ON SWITCHING
Q801, 804
Q815, 816
POWER ANTENNA CONTROL
POWER ANTENNA
Q824
AUDIO INTERRUPT IN SWITCHING
AUDIO INTERRUPT IN
AUDIO INTERRUPT OUT SWITCHING
AUDIO INTERRUPT OUT
Q819, 820
DIMMER CONTROL
DIMMER CONTROL
Q829
IN PAUSE SWITCHING
Q825
OUT REMOTE
Q817, 818
REMOTE
PUASE
POWER CONNECTOR
BATT
ACC
CHOKE COIL
FUSE (5A)
Q808
μ-COM + B
Q828, 830
REGULATOR
PL901, 905
PL902~904 906~908
Q901~905
LIGHTING CONTROL
BATTERY VOLTAGE DET.
IC803
ACC DET.
Q821, 822
IC902
WAVE-FORM SHAPING CIRCUIT
S919
S901~917
KEY MATRIX
RESET SW. S918
IC602 Q604, 606, 607
RESET CIRCUIT
WATCH DOG
Q602, 603, 605
IC601 MAIN SYSTEM CONTROL (μ-COM)
IC901
LCD DRIVER
LCD901
LCD DISPLAY
IC202
I/V CONVERTER
IC201
D/A CONVERTER
L
R
IC106
DIGITAL FILTER
IC109
INVERTER
IC101
DIGITAL SIGNAL PROCESSOR
Q103
LASER CONTROL
FOCUS/TRACKING SERVO CONTROL
IC102
IC103~105
SERVO DRIVER
SOLENOID DRIVER
Q104~106
Q107, 108
LOADING CONTROL
LOADING DRIVER
IC1311
PICK-UP BLOCK HD1201
LD
PD
B
D
A
C
E
F
SPINDLE MOTOR (M1302)
SLED MOTOR (M1303)
TRACKING COIL
FOCUS COIL
M
CLAMP SOL. (SD1301)
DISC DET PHOTO SWITCH
PT1301~PT1304
LOADING MOTOR (M1301)
CLAMP END SWITCH (S1301)
LIMIT END SWITCH (S1302)
CD MECHANISM

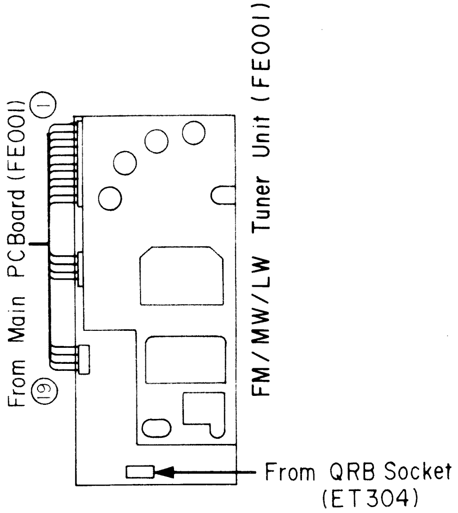
Parts Layout on P. C. Board and Wiring Diagram (1/2)


Main P.C.Board (Component Side View)
From IN/OUT P.C.Board
(CH301)
(CH302)
(CH303)
To CB301
To CB302
To CB303
CB301
CB302
CB303
From Power P.C.Board (CH203)
To CB203
CB203
From Power P.C.Board (CH202)
To CB202
CB202
CB901
To CB901
From Front P.C.Board (CH901)
CH601
To CH601
From Load/Photo P.C.Board (CH1301)
CB102
To CB102
BRN
RED
ORG
From End SW P.C.Board (D)
CB101
To CB101
From Pick up Unit (HD1201)
From Main P.C.Board (FE001) ⑲
FM/MW/LW Tuner Unit (FE001)
From QRB Socket (ET304)
IC001
IC002
IC004
IC005
IC101
IC102
IC104
IC103
IC105
IC106
IC201
IC202
IC203
IC204
IC205
IC206
IC207
IC208
IC209
IC213
IC214
IC301
IC302
IC601
IC701
FE001
VR001
VR002
VR003
VR004
VR101
VR102
VR103
X001
X101
X601
TH601
S301
BA601
L001
L002
L701
L702
1
2
3
4
5
A
B
C
D
E
F
G
H

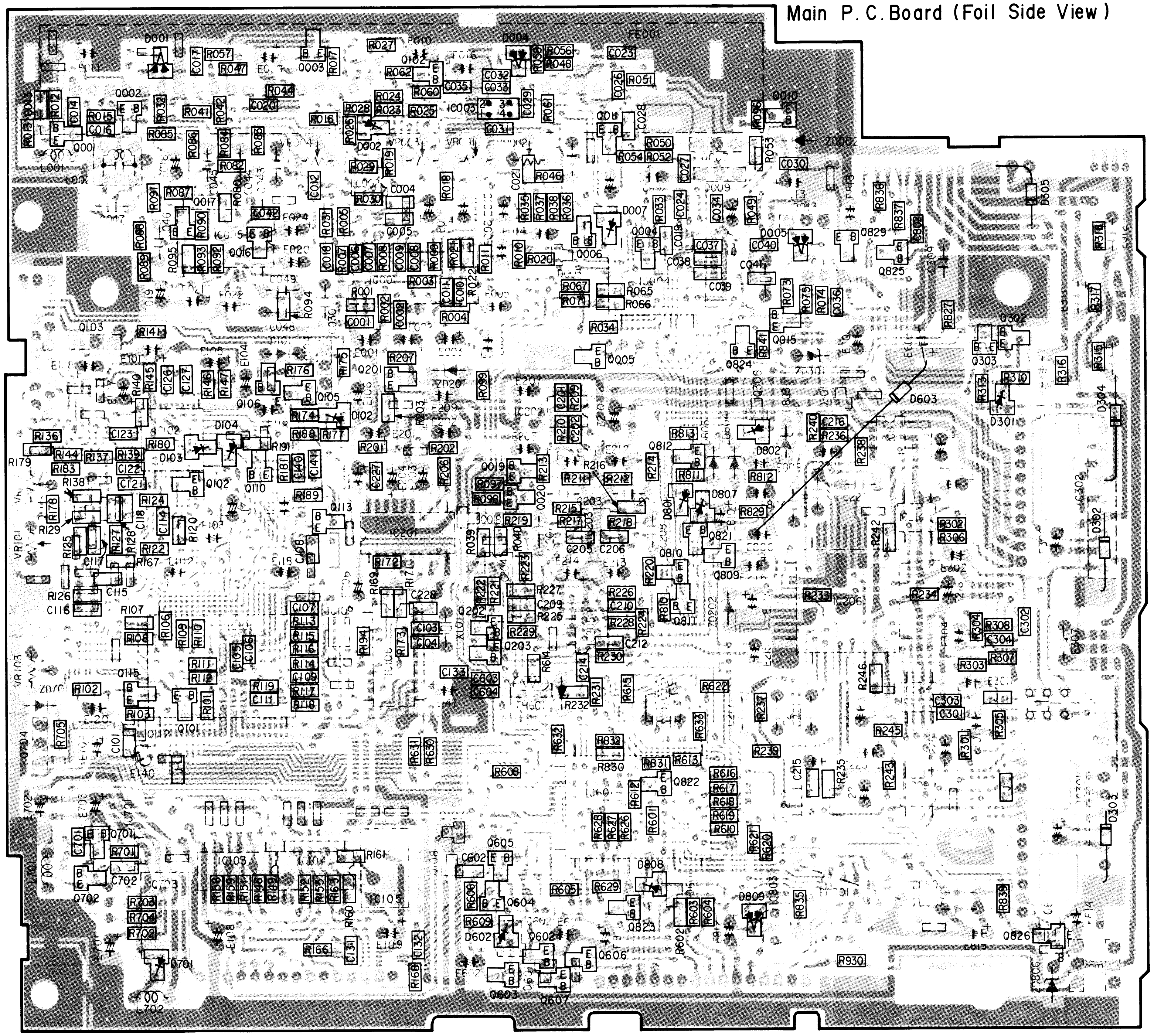

CB102
T.P.8
Q103
IC102
IC101
IC103
IC005
VR101
VR102
VR103
ZD701
Q703
L702
L001
L002
15

o P.C.Board
(CH1301)


To CB102
BRN
RED
ORG
3
1
From End SW P.C.Board
(D)
To CB101
1
12
From Pick up Unit
(HD1201)


From Main P.C.Board (FE001)
①
⑲
FM/MW/LW Tuner Unit (FE001)
From QRB Socket
(ET304)

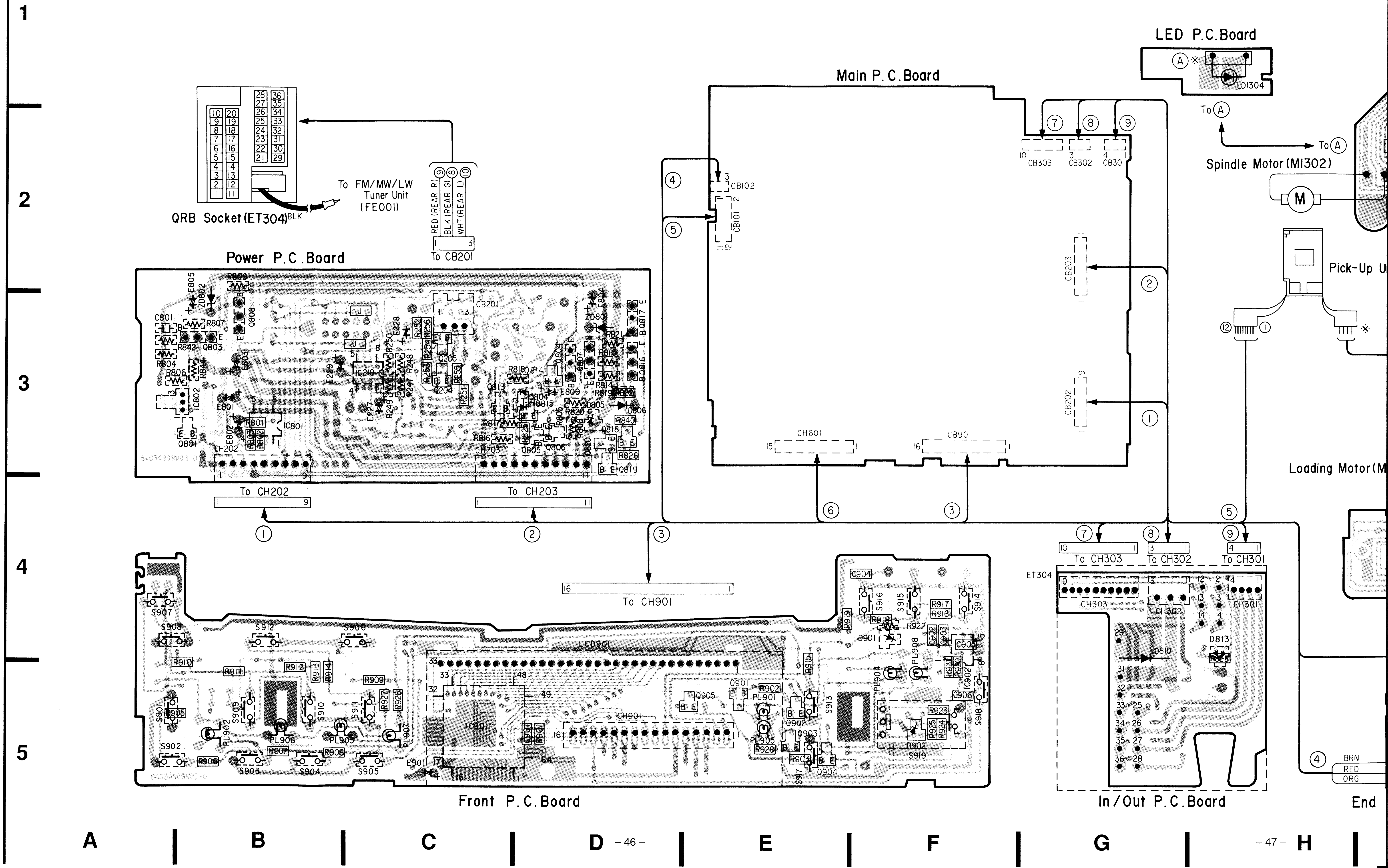
Main P. C. Board (Foil Side View)


D001
D004
FE001
Q010
ZD002
IC201
IC103
IC104
IC105
IC301
IC302
D603
Q302
Q303
D301
D304
D305
D302
D303
Q825
Q826
Q701
Q702
D701
L701
L702
VR101
VR103
R930

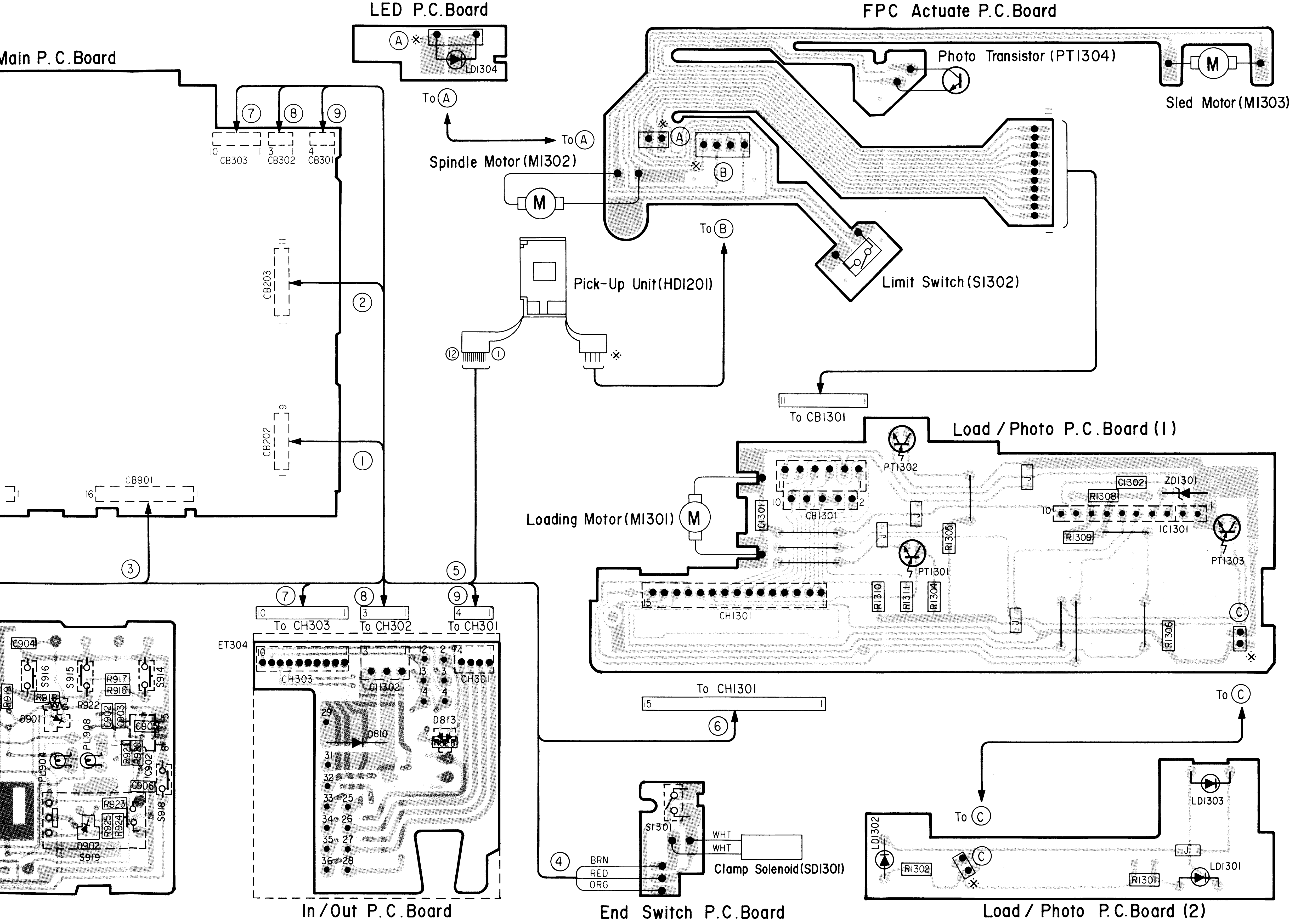
Orange Pattern : Component Side Pattern
Blue Pattern : Foil Side Pattern

Parts Layout on P. C. Board and Wiring Diagram (2/2)

All P.C.Boards viewed from soldered side.


Main P. C. Board
LED P.C.Board
LD1304
To Ⓐ
Spindle Motor (M1302)
Pick-Up U
Loading Motor (M
QRB Socket (ET304) BLK
To FM/MW/LW Tuner Unit (FE001)
RED (REAR R)
BLK (REAR G)
WHT (REAR L)
To CB201
Power P.C.Board
To CH202
To CH203
To CH901
CB101
CB102
CB203
CB202
CB303
CB302
CB301
CH601
CB901
To CH303
To CH302
To CH301
ET304
CH303
CH302
CH301
D810
D813
In / Out P.C.Board
Front P. C. Board
LCD901
IC901
CH901
IC801
IC802
IC210
CH202
CH203
CB201
BRN
RED
ORG
End
1
2
3
4
5
A
B
C
D
E
F
G
H

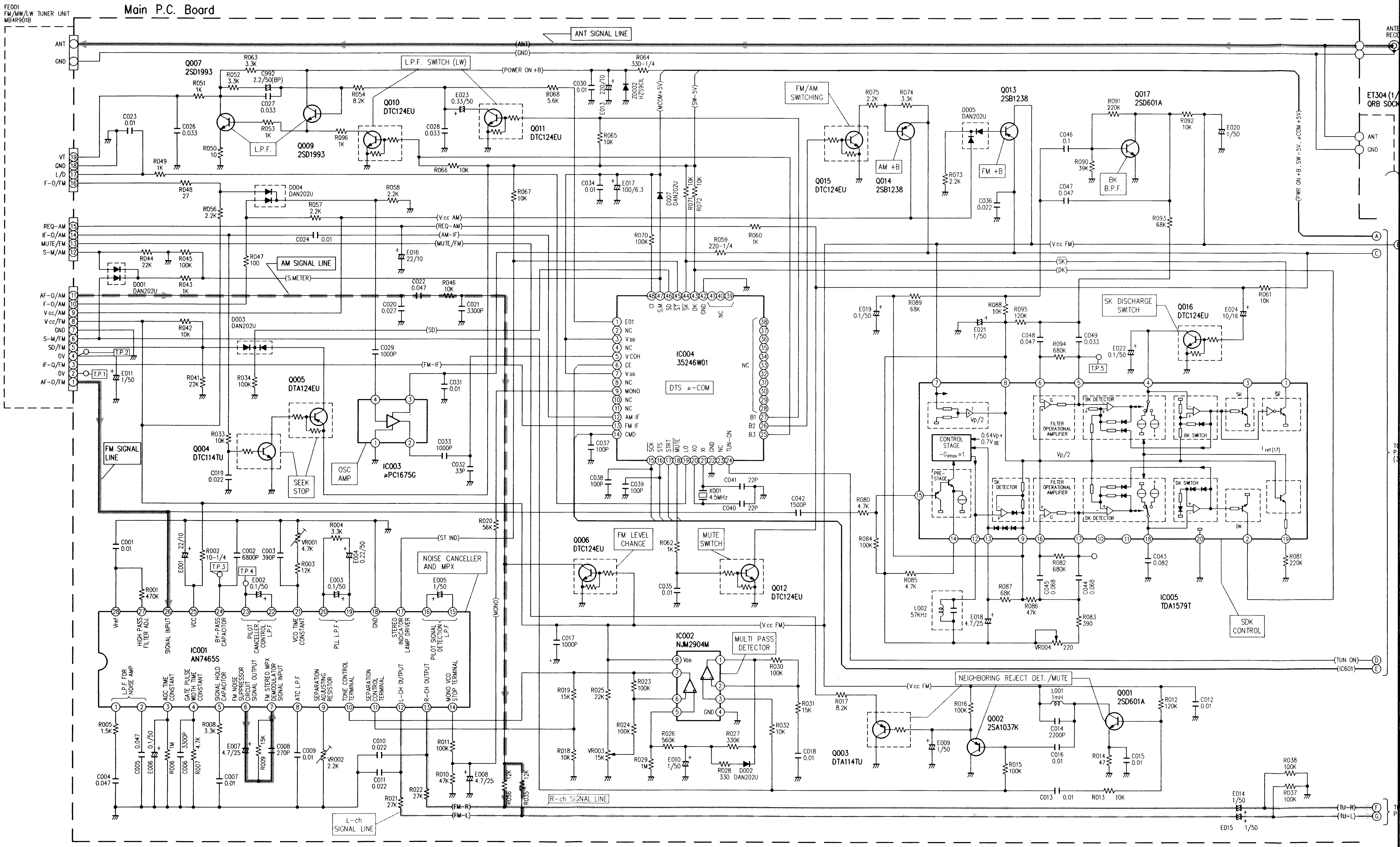
wed from soldered side.


LED P.C.Board
LD1304
To Ⓐ
To Ⓐ
FPC Actuate P.C.Board
Photo Transistor (PT1304)
Sled Motor (M1303)
Spindle Motor (M1302)
To Ⓑ
Limit Switch (S1302)
Pick-Up Unit (HD1201)
⑫ ①
Main P. C. Board
⑦ ⑧ ⑨
CB303 CB302 CB301
CB203
CB202
CB901
① ② ③ ④ ⑤ ⑥
To CB1301
Load / Photo P.C.Board (1)
PT1302
PT1301
PT1303
Loading Motor (M1301)
CB1301
C1301
C1302
ZD1301
R1308
R1309
IC1301
R1305
R1310
R1311
R1304
R1306
CH1301
To CH1301
To Ⓒ
To CH303
To CH302
To CH301
ET304
CH303
CH302
CH301
D810
D813
In / Out P.C.Board
S1301
BRN
RED
ORG
WHT
WHT
Clamp Solenoid (SD1301)
End Switch P.C.Board
LD1302
R1302
LD1303
LD1301
R1301
Load / Photo P.C.Board (2)
C904
S916
S915
S914
R917
R916
R918
R919
R922
D901
PL908
C902
C903
C905
PL904
R921
R920
IC902
C906
R923
R925
R924
D902
S919
S918

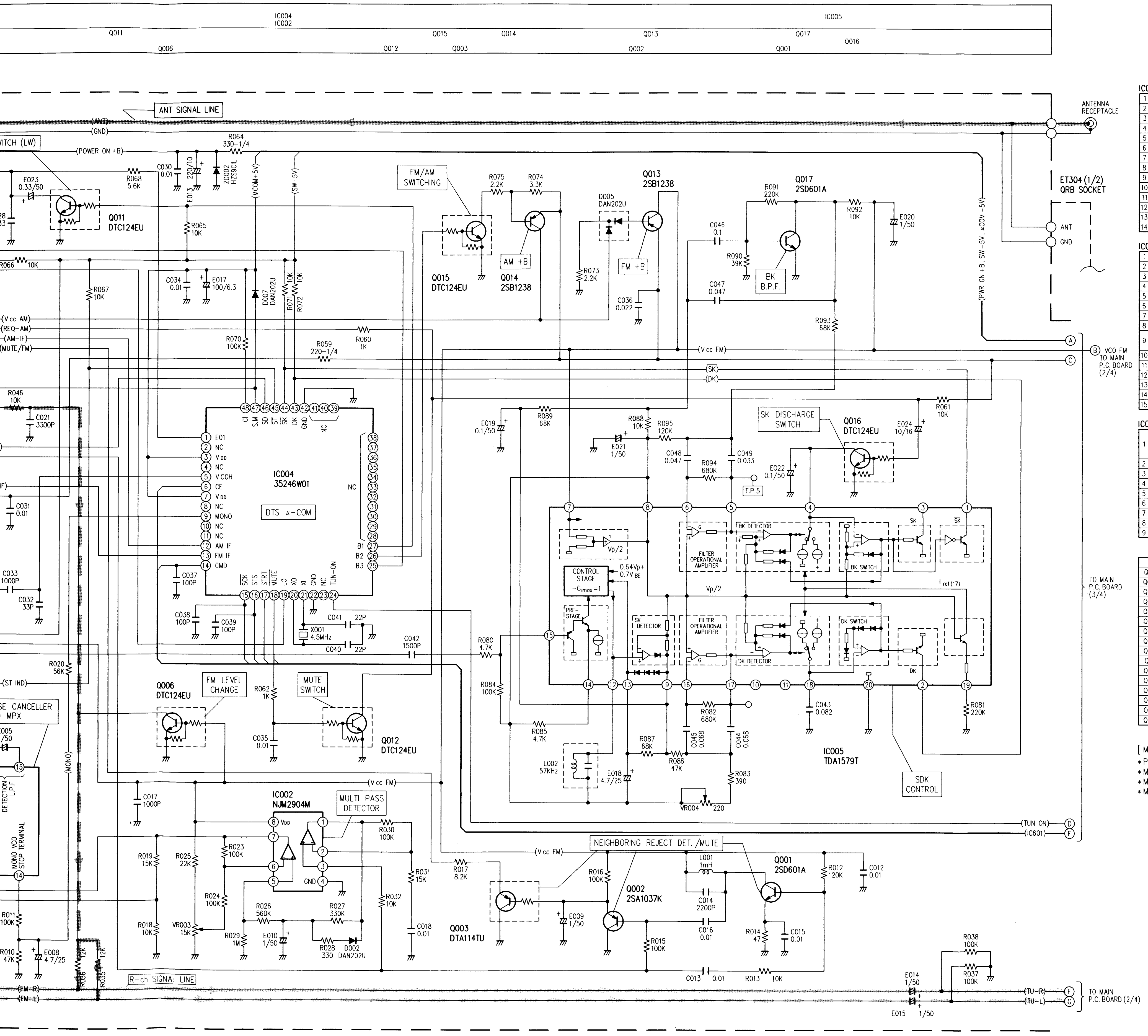
Orange Pattern : Component Side Pattern
Blue Pattern : Foil Side Pattern

Schematic Diagram (1/4)

IC	IC001	IC003		IC004 IC002		IC005	
Transistor (Q)	Q007 Q004	Q009 Q005 Q010	Q011 Q006	Q012	Q015 Q003 Q014	Q013 Q002 Q017 Q001	Q016



1
2
3
4
5
FE001
FM/MW/LW TUNER UNIT
MB4R901B
Main P.C. Board
ANT SIGNAL LINE
(ANT)
(GND)
(POWER ON +B)
L.P.F. SWITCH (LW)
L.P.F.
Q007 2SD1993
Q009 2SD1993
Q010 DTC124EU
Q011 DTC124EU
ANT
GND
VT
GND
L/D
F-O/FM
REQ-AM
IF-O/AM
MUTE/FM
S-M/AM
AF-O/AM
F-O/AM
Vcc/AM
Vcc/FM
GND
S-M/FM
SD/FM
0V
IF-O/FM
0V
AF-O/FM
T.P.1
T.P.2
T.P.3
T.P.4
T.P.5
D001 DAN202U
D003 DAN202U
D004 DAN202U
D005 DAN202U
D007 DAN202U
ZD002 HZS9CIL
AM SIGNAL LINE
(S.METER)
(Vcc AM)
(REQ-AM)
(AM-IF)
(MUTE/FM)
(SD)
(FM-IF)
(ST IND)
(MONO)
(Vcc FM)
(SK)
(DK)
(TUN ON)
(IC601)
(FM-R)
(FM-L)
(TU-R)
(TU-L)
(MCOM+5V)
(SW-5V)
(PWR ON +B, SW-5V, μCOM+5V)
FM SIGNAL LINE
Q005 DTA124EU
Q004 DTC114TU
SEEK STOP
OSC AMP
IC003 μPC1675G
IC004 35246W01
DTS μ-COM
X001 4.5MHz
FM/AM SWITCHING
Q015 DTC124EU
Q014 2SB1238
AM +B
Q013 2SB1238
FM +B
Q017 2SD601A
BK B.P.F.
ET304 (1/
QRB SOCK
SK DISCHARGE SWITCH
Q016 DTC124EU
CONTROL STAGE
PRE-STAGE
SK DETECTOR
BK DETECTOR
DK DETECTOR
FILTER OPERATIONAL AMPLIFIER
BK SWITCH
DK SWITCH
SK
DK
Vp/2
IC005 TDA1579T
SDK CONTROL
L002 57KHz
VR004 220
Q006 DTC124EU
FM LEVEL CHANGE
MUTE SWITCH
Q012 DTC124EU
NOISE CANCELLER AND MPX
IC001 AN7465S
Vref
HIGH PASS FILTER ADJ.
SIGNAL INPUT
VCC
BY-PASS CAPACITOR
PILOT CANCELLER CONTROL L.P.F
VCO TIME CONSTANT
PLL L.P.F
GND
STEREO INDICATOR LAMP DRIVER
PILOT SIGNAL DETECTION L.P.F
L.P.F FOR NOISE AMP
AGC TIME CONSTANT
GATE PULSE WIDTH TIME CONSTANT
SIGNAL HOLD CAPACITOR
FM NOISE SUPPRESSOR CIRCUIT SIGNAL OUTPUT
FM STEREO MPX DEMODULATOR SIGNAL INPUT
ATC L.P.F
SEPARATION ADJUSTING RESISTOR
TONE CONTROL TERMINAL
SEPARATION CONTROL TERMINAL
L-CH OUTPUT
R-CH OUTPUT
MONO VCO STOP TERMINAL
L-ch SIGNAL LINE
R-ch SIGNAL LINE
IC002 NJM2904M
MULTI PASS DETECTOR
NEIGHBORING REJECT DET./MUTE
Q003 DTA114TU
Q002 2SA1037K
Q001 2SD601A
L001 1mH
VR001 4.7K
VR002 2.2K
VR003 15K
E014 1/50
E015 1/50
A
B
C
D
E
F
G
H


IC004
IC002
IC005
Q011
Q006
Q015
Q014
Q012
Q003
Q013
Q002
Q017
Q001
Q016
ANT SIGNAL LINE
(ANT)
(GND)
(POWER ON +B)
ANTENNA RECEPTACLE
ET304 (1/2)
QRB SOCKET
ANT
GND
(PWR ON +B, SW–5V, μCOM +5V)
R064 330–1/4
C030 0.01
E013 220/10
ZD002 HZS9C1L
(MCOM+5V)
(SW–5V)
E023 0.33/50
R068 5.6K
Q011 DTC124EU
R065 10K
R066 10K
R067 10K
C034 0.01
E017 100/6.3
D007 DAN202U
R071 10K
R072 10K
(Vcc AM)
(REQ–AM)
(AM–IF)
(MUTE/FM)
R070 100K
R059 220–1/4
R060 1K
R046 10K
C021 3300P
FM/AM SWITCHING
R075 2.2K
R074 3.3K
Q015 DTC124EU
Q014 2SB1238
AM +B
D005 DAN202U
R073 2.2K
Q013 2SB1238
FM +B
C036 0.022
Q017 2SD601A
R091 220K
R092 10K
E020 1/50
C046 0.1
R090 39K
BK B.P.F.
C047 0.047
R093 68K
(Vcc FM)
(SK)
(DK)
VCO FM TO MAIN P.C. BOARD (2/4)
IC004 35246W01
DTS μ-COM
E01
NC
VDD
NC
V COH
CE
VDD
NC
MONO
NC
NC
AM IF
FM IF
CMD
B1
B2
B3
NC
CI
S.M
SD
ST
SK
DK
GND
NC
SCK
STS
STRT
MUTE
LO
XO
XI
GND
NC
TUN–ON
C031 0.01
C033 1000P
C032 33P
C037 100P
C038 100P
C039 100P
X001 4.5MHz
C041 22P
C040 22P
C042 1500P
R020 56K
(ST IND)
NOISE CANCELLER MPX
Q006 DTC124EU
FM LEVEL CHANGE
R062 1K
MUTE SWITCH
C035 0.01
Q012 DTC124EU
(MONO)
DETECTION L.P.F
MONO VCO STOP TERMINAL
E019 0.1/50
R089 68K
R088 10K
R095 120K
E021 1/50
C048 0.047
R094 680K
C049 0.033
E022 0.1/50
T.P.5
SK DISCHARGE SWITCH
Q016 DTC124EU
E024 10/16
R061 10K
CONTROL STAGE
–Gvmax=1
0.64Vp+0.7VBE
Vp/2
FILTER OPERATIONAL AMPLIFIER
BK DETECTOR
BK SWITCH
SK
SR
Iref(17)
PRE-STAGE
SK DETECTOR
DK SWITCH
DK DETECTOR
DK
R080 4.7K
R084 100K
R082 680K
C043 0.082
R081 220K
R085 4.7K
L002 57KHz
E018 4.7/25
R087 68K
R086 47K
C045 0.068
C044 0.068
R083 390
VR004 220
IC005 TDA1579T
SDK CONTROL
TO MAIN P.C. BOARD (3/4)
C017 1000P
IC002 NJM2904M
MULTI PASS DETECTOR
VDD
GND
R030 100K
R019 15K
R025 22K
R023 100K
R024 100K
R018 10K
VR003 15K
R029 1M
R026 560K
R027 330K
E010 1/50
R028 330
D002 DAN202U
R031 15K
R032 10K
C018 0.01
R017 8.2K
Q003 DTA114TU
(TUN ON)
(IC601)
NEIGHBORING REJECT DET. /MUTE
R016 100K
E009 1/50
Q002 2SA1037K
L001 1mH
C014 2200P
C016 0.01
R015 100K
Q001 2SD601A
R014 47
C015 0.01
R012 120K
C012 0.01
C013 0.01
R013 10K
R011 100K
R010 47K
E008 4.7/25
R036 12K
R035 12K
R–ch SIGNAL LINE
(FM–R)
(FM–L)
R038 100K
R037 100K
E014 1/50
E015 1/50
(TU–R)
(TU–L)
TO MAIN P.C. BOARD (2/4)

IC001

1	2.3V	15	2.3V
2	1.7V	16	2.3V
3	1.3V	17	4.8V
4	0V	18	0V
5	2.4V	19	2.4V
6	1.3V	20	2.4V
7	1.1V	21	1.3V
8	0V	22	2.1V
9	0.25V	23	2.1V
10	4.5V	24	2.4V
11	1.7V	25	8.8V
12	2.8V	26	2.3V
13	2.8V	27	1.6V
14	0V	28	2.4V

IC002

1	0.1V
2	0.2V
3	0.2V
4	0V
5	0.2V
6	0.8V
7	0V
8	8.6V

IC003

1	3.9V
2	0V
3	1.1V
4	4.8V

IC004

1	1.2V	16	PS	30	NC	46	4.5V
2	1.4V	17	PS	31	NC	47	4.6V
3	5.1V	18	5.1V	32	NC	48	4.6V
4	1.7V	19	0V	33	NC		
5	3.2V	20	PS	34	NC		
6	5.1V	21	PS	35	NC		
7	0V	22	0V	36	NC		
8	0V	23	0V	37	NC		
9	0V/5.1V	24	5.1V/0V	38	NC		
	ST/MONO		TUNER ON/OFF	39	NC		
10	0V			40	NC		
11	0V	25	4.7V	41	NC		
12	0V	26	0V	42	0V		
13	0V	27	1.1V	43	0V		
14	PS	28	NC	44	4.2V		
15	PS	29	NC	45	4.2V		

IC005

1	4.2V/0V	10	0V
	SDK ON/OFF	11	0.4V
		12	4.4V
2	0.1V	13	3.8V
3	0V	14	4.2V
4	0V	15	3.5V
5	4.3V	16	3.1V
6	3V	17	4.4V
7	4.7V	18	0.1V
8	4.3V	19	3.6V
9	4.4V	20	0V

	E	C	B
Q001	1.4V	8.1V	0.8V
Q002	0.2V	0V	0.7V
Q003	0.7V	0V	1.2V
Q004	0V	4.9V	0V
Q005	4.8V	0.2V	5V
Q006	8.6V	0V	0V
Q007	8V	8.6V	8.7V
Q009	0.6V	9.3V	1.2V
Q010	0V	0.6V	1V
Q011	1V	0V	0V
Q012	4.9V	0V	0V
Q013	8.7V	8.6V	8V
Q014	8.7V	0.5V	8.7V
Q015	0V	8.7V	0V
Q016	0.1V	0.1V	0V
Q017	0.6V	4.3V	0V

[Measuring Conditions]

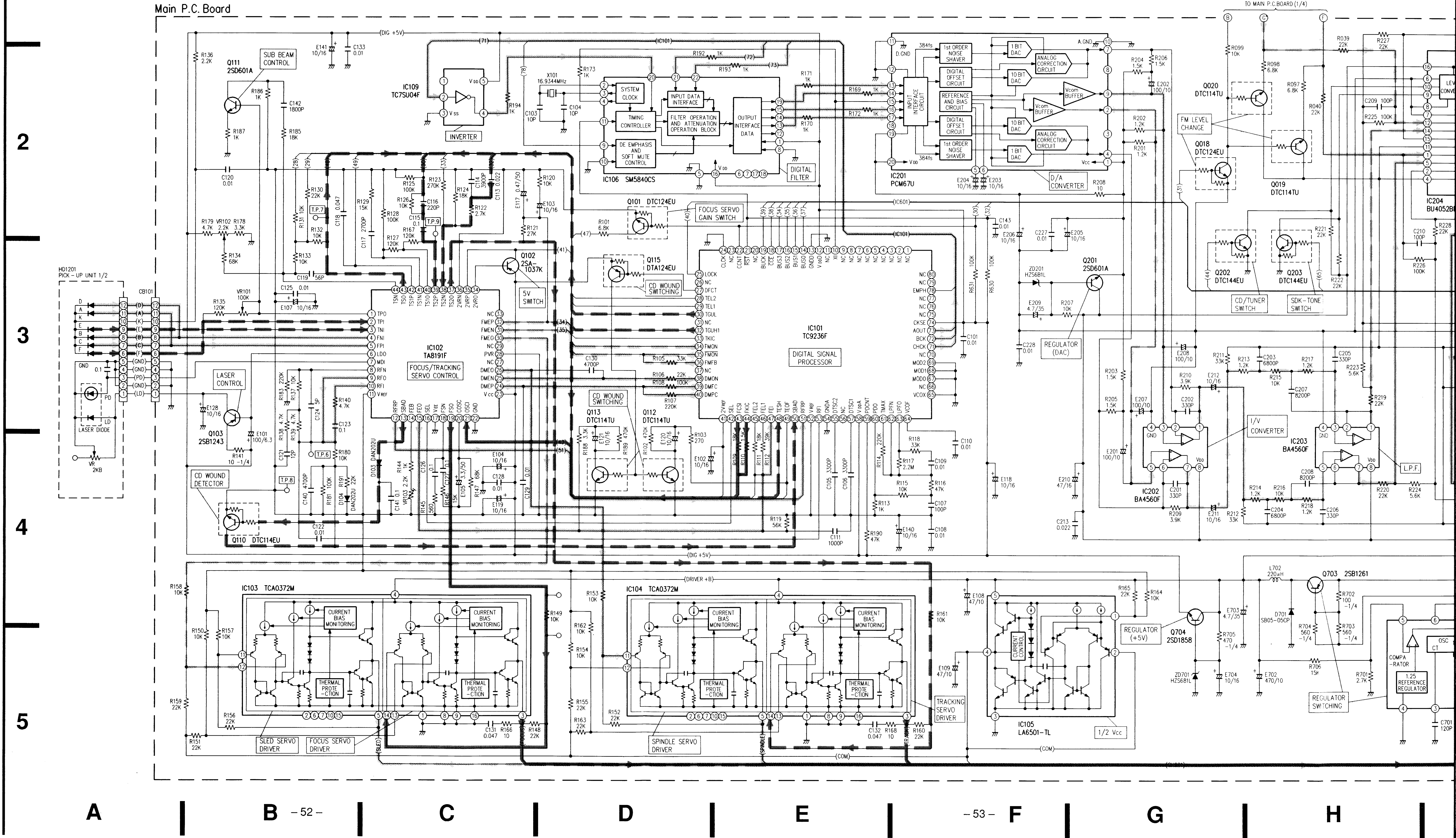
- *Power Supply Voltage : DC14V
- *Measuring Meter : Digital Multi Voltmeter
- *Measuring Point Reference : Between Ground
- *Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

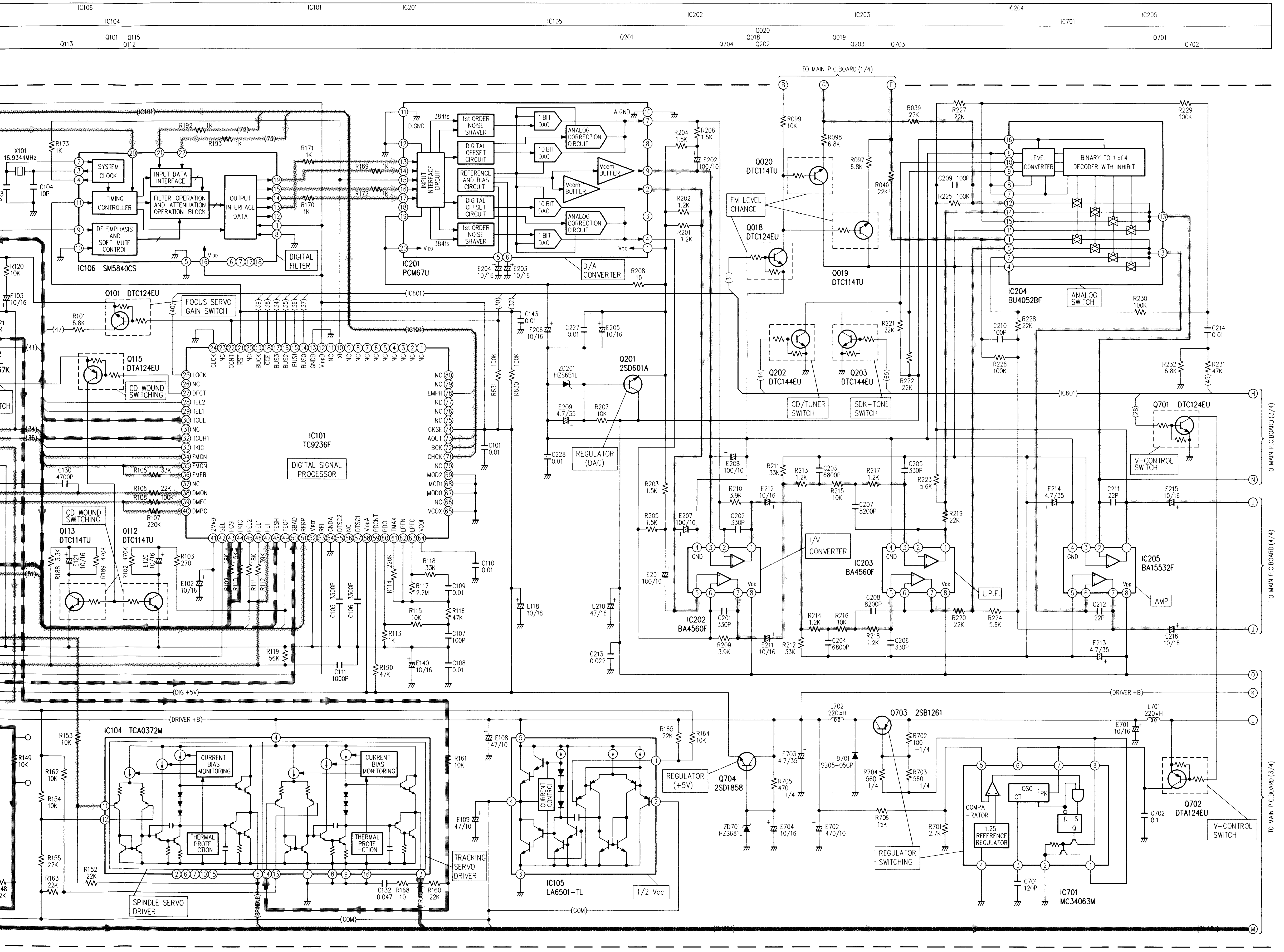
NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (2/4)

IC	IC103, IC109, IC102, IC106, IC104, IC101, IC201, IC105, IC202, IC203, IC204
Transistor (Q)	Q111, Q103, Q110, Q102, Q113, Q101, Q115, Q112, Q201, Q704, Q020, Q018, Q202, Q019, Q203, Q703


1
2
3
4
5
Main P.C. Board
TO MAIN P.C.BOARD (1/4)
HD1201 PICK - UP UNIT 1/2
LASER DIODE
CB101
Q111 2SD601A
SUB BEAM CONTROL
LASER CONTROL
Q103 2SB1243
CD WOUND DETECTOR
Q110 DTC114EU
IC109 TC7SU04F
INVERTER
X101 16.9344MHz
IC106 SM5840CS
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DE EMPHASIS AND SOFT MUTE CONTROL
DIGITAL FILTER
IC102 TA8191F
FOCUS/TRACKING SERVO CONTROL
Q102 2SA-1037K
5V SWITCH
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
Q115 DTA124EU
CD WOUND SWITCHING
Q113 DTC114TU
Q112 DTC114TU
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
IC201 PCM67U
INPUT INTERFACE CIRCUIT
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
1 BIT DAC
10 BIT DAC
Vcom BUFFER
ANALOG CORRECTION CIRCUIT
D/A CONVERTER
Q201 2SD601A
REGULATOR (DAC)
ZD201 HZS6B1L
FM LEVEL CHANGE
Q020 DTC114TU
Q018 DTC124EU
Q019 DTC114TU
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
IC204 BU4052B
IC202 BA4560F
IC203 BA4560F
I/V CONVERTER
L.P.F.
IC103 TCA0372M
IC104 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE -CTION
SLED SERVO DRIVER
FOCUS SERVO DRIVER
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
IC105 LA6501-TL
CURRENT CONTROL
1/2 Vcc
REGULATOR (+5V)
Q704 2SD1858
ZD701 HZS6B1L
L702 220μH
D701 SB05-05CP
Q703 2SB1261
REGULATOR SWITCHING
COMPA -RATOR
1.25 REFERENCE REGULATOR
(DIG +5V)
(DRIVER +B)
(COM)
A
B
C
D
E
F
G
H


IC106
IC104
IC101
IC201
IC105
IC202
IC203
IC204
IC701
IC205
Q113
Q101
Q115
Q112
Q201
Q704
Q020
Q018
Q202
Q019
Q203
Q703
Q701
Q702
TO MAIN P.C.BOARD (1/4)
X101 16.9344MHz
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DE EMPHASIS AND SOFT MUTE CONTROL
DIGITAL FILTER
IC106 SM5840CS
INPUT INTERFACE CIRCUIT
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
1 BIT DAC
10 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
D/A CONVERTER
IC201 PCM67U
Q020 DTC114TU
Q018 DTC124EU
Q019 DTC114TU
FM LEVEL CHANGE
LEVEL CONVERTER
BINARY TO 1 of 4 DECODER WITH INHIBIT
IC204 BU4052BF
ANALOG SWITCH
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
Q115 DTA124EU
CD WOUND SWITCHING
Q113 DTC114TU
Q112 DTC114TU
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
ZD201 HZS6B1L
Q201 2SD601A
REGULATOR (DAC)
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
Q701 DTC124EU
V-CONTROL SWITCH
I/V CONVERTER
IC202 BA4560F
IC203 BA4560F
L.P.F.
IC205 BA15532F
AMP
TO MAIN P.C.BOARD (3/4)
TO MAIN P.C.BOARD (4/4)
(DIG +5V)
(DRIVER +B)
IC104 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE-CTION
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
CURRENT CONTROL
IC105 LA6501-TL
1/2 Vcc
REGULATOR (+5V)
Q704 2SD1858
Q703 2SB1261
D701 SB05-05CP
ZD701 HZS6B1L
REGULATOR SWITCHING
COMPA-RATOR
1.25 REFERENCE REGULATOR
OSC
IC701 MC34063M
Q702 DTA124EU
V-CONTROL SWITCH
(COM)

IC101

1	4.8V	17	PS	33	1.7V	49	2.2V	65	0V
2	4.8V	18	PS	34	2.2V	50	2.5V	66	PS
3		19	PS	35	2.2V	51	2.4V	67	0.1V
4	PS	20	PS	36	2.1V	52	2.2V	68	0.1V
5	PS	21	5V	37	5V	53	PS	69	0.1V
6	PS	22	0V	38	2.2V	54	0.1V	70	PS
7	PS	23	PS	39	PS	55	2.6V	71	PS
8	PS	24	0V	40	PS	56	2.6V	72	PS
9	5.1V	25	5.1V	41	4.3V	57	5.6V	73	PS
10	2.5V	26	4.8V	42	5.1V	58	5.1V	74	5.1V
11	2.4V	27	4.7V	43	2.6V	59	PS	75	0V
12	5.1V	28	2.2V	44	2.6V	60	PS	76	5V
13	0V	29	2.2V	45	2.2V	61	PS	77	5.1V
14	PS	30	2.2V	46	2.2V	62	2.3V	78	0V
15	PS	31	0.4V	47	2.2V	63	2.5V	79	5V
16	PS	32	0.4V	48	2.2V	64	1.6V	80	PS

IC102

1	1.7V	12	PS	23	5V	34	4.4V
2	2V	13	2.7V	24	PS	35	0V
3	2V	14	2V	25	2.1V	36	2.1V
4	2V	15	PS	26	PS	37	PS
5	2V	16	4.9V	27	PS	38	2V
6	3.9V	17	0V	28	2.1V	39	2V
7	0.1V	18	PS	29	2.1V	40	PS
8	2.1V	19	PS	30	2V	41	2V
9	PS	20	PS	31	2V	42	2.1V
10	PS	21	2.4V	32	2.1V	43	2.1V
11	2.1V	22	0V	33	PS	44	2.1V

IC103

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC104

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC105

1	2.6V
2	4V
3	0V
4	4V
5	8.5V

IC109

1	0.1V
2	0V
3	0.1V
4	0.2V

IC106

1	5.1V	12	PS
2	2.6V	13	PS
3	2.6V	14	PS
4	PS	15	PS
5	0V	16	5.1V
6	0V	17	0V
7	0V	18	0V
8	5.1V	19	PS
9	0V	20	PS
10	0V	21	PS
11	4.9V	22	PS

IC201

1	5V	11	0V
2	3.5V	12	0.3V
3	0.4V	13	PS
4	3.5V	14	PS
5	3.2V	15	PS
6	4.2V	16	PS
7	3.5V	17	PS
8	0.4V	18	0V
9	3.5V	19	0V
10	0V	20	4.9V

IC202

1	AUDIO
2	3.5V
3	3.5V
4	0V
5	3.5V
6	3.5V
7	AUDIO
8	8.3V

IC203

1	AUDIO
2	AUDIO
3	AUDIO
4	0V
5	AUDIO
6	AUDIO
7	AUDIO
8	8.3V

IC205

1	AD 4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	AUDIO
8	8.3V

IC204

1	AD 3.7V	9	0V
2	AD 4.1V	10	8V
3	4.2V	11	0V
4	0V	12	AD 3.7V
5	4.2V	13	4.2V
6	0V	14	4.2V
7	0V	15	AD 4V
8	0V	16	8.3V

IC701

1	13.7V
2	0V
3	0.2V
4	0V
5	0V
6	0V
7	0V
8	13.7V

	E	C	B		E	C	B
Q018	0V	6.4V	0V	Q113	0V	0V	0.1V
Q019	0V	4.6V	4.4V	Q115	0V	0V	0V
Q020	4.4V	4.6V	0V	Q201	5.7V	8.9V	5V
Q101	0V	0V	0V	Q202	5.1V	0V	0V
Q102	0V	0V	0V	Q203	3.5V	0V	0V
Q103	0V	0.1V	0V	Q701	0V	13.2V	0V
Q110	0V	0V	0V	Q702	13.2V	0V	13.8V
Q111	0V	0V	0V	Q703	13.7V	0V	13.7V
Q112	0V	0V	−0.4V	Q704	0V	0V	0V

[Measuring Conditions]
* Power Supply Voltage : DC14V
* Measuring Meter : Digital Multi Voltmeter
* Measuring Point Reference : Between Ground
* Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS − 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

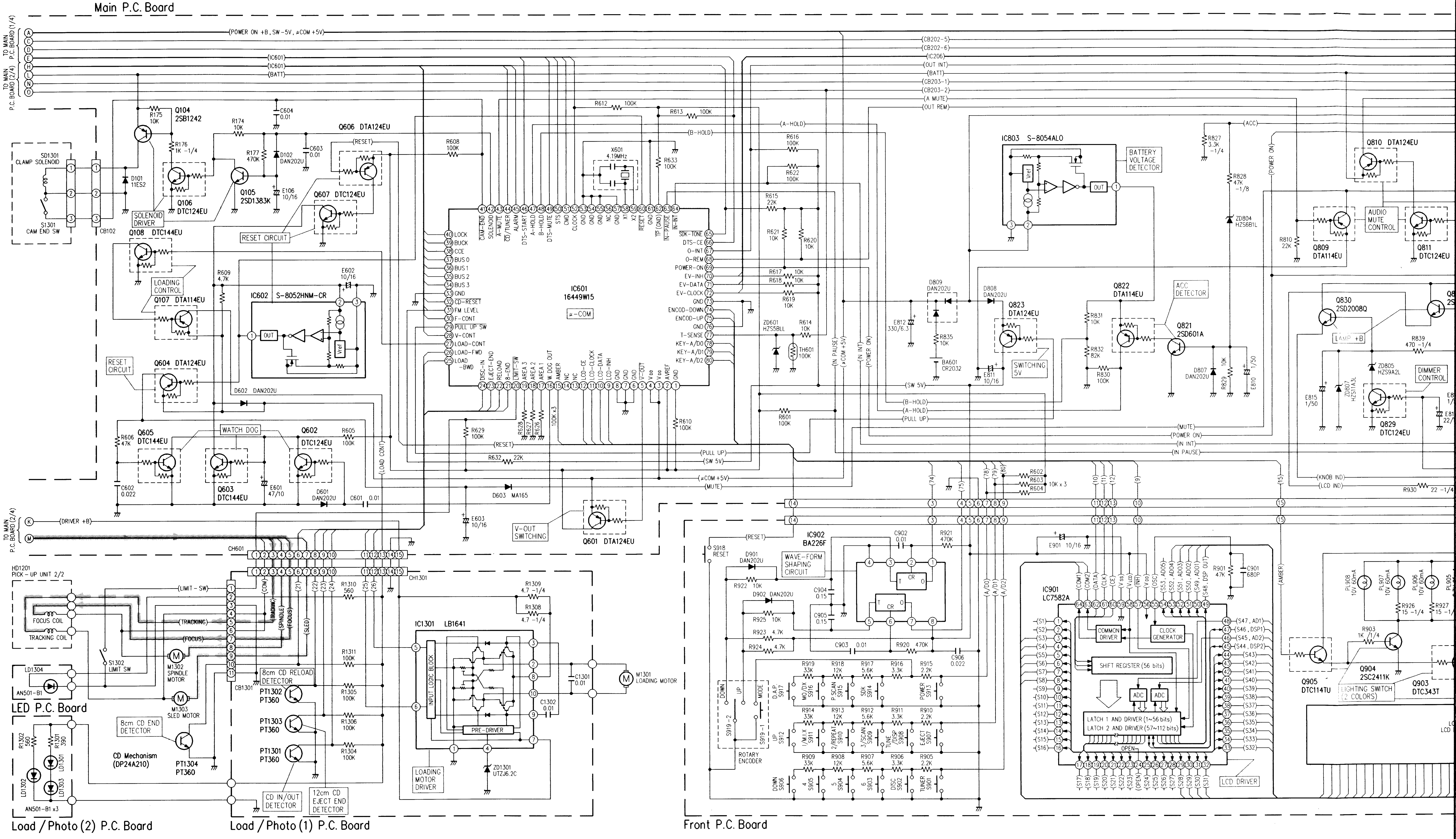
CD Signal Line (Digital)
L−ch Signal Line
R−ch Signal Line
Focus Servo Signal Line
Tracking Servo Signal Line
Spindle Servo Signal Line
Sled Servo Signal Line

NOTES:

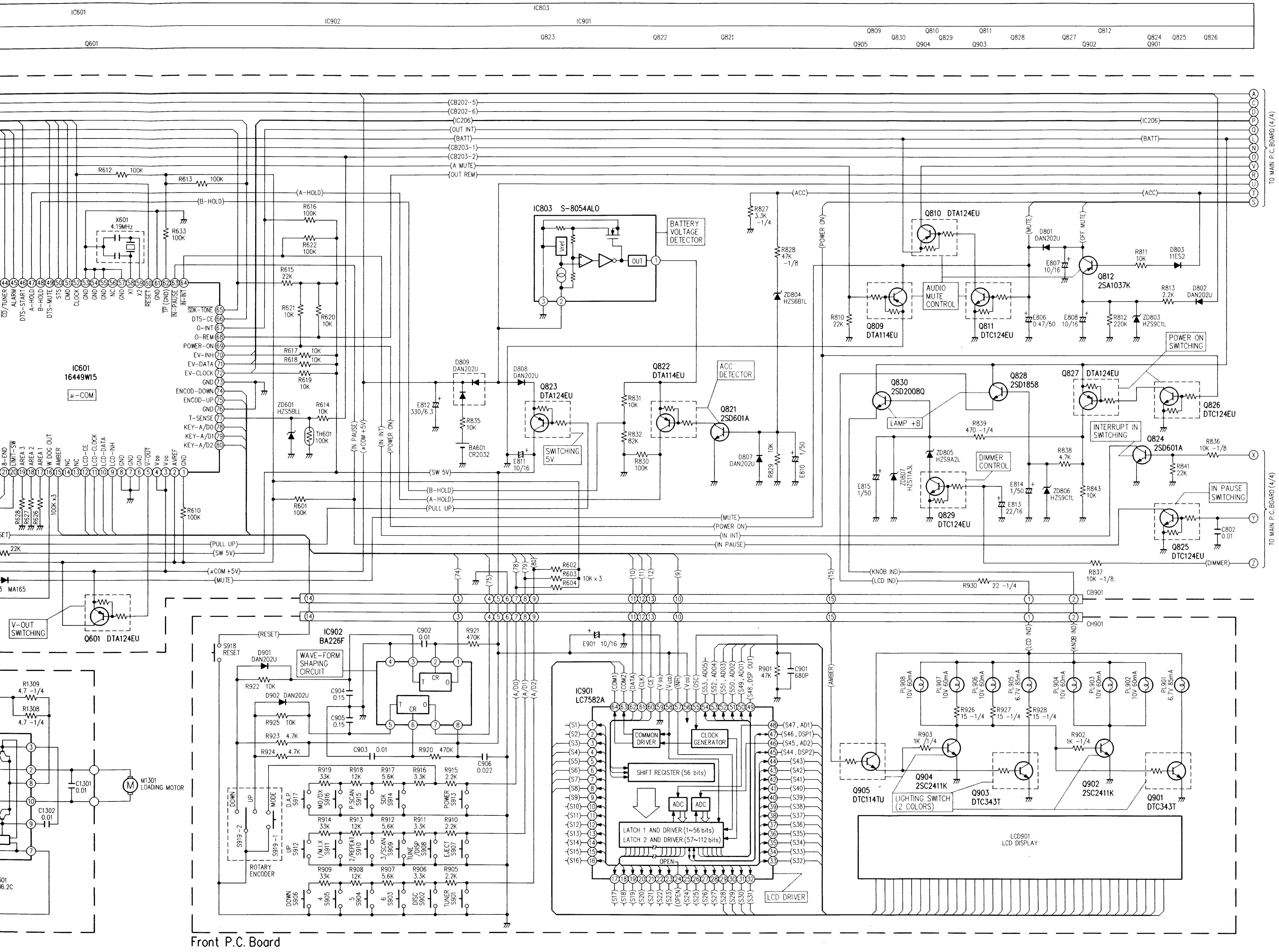
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (3/4)

IC	IC602	IC1301	IC601	IC902	IC803	IC901
Transistor (Q),(PT)	Q108 Q605 Q107 Q604 Q104 Q106 Q604 PT1304 Q603 Q105 PT1302 PT1303 PT1301 Q602 Q607 Q606		Q601		Q823 Q822 Q821	Q809 Q905 Q830 Q810 Q904 Q829 Q811 Q903



1
2
3
4
5
Main P.C. Board
TO MAIN P.C. BOARD (1/4)
TO MAIN P.C. BOARD (2/4)
(POWER ON +B, SW -5V, μCOM +5V)
(IC601)
(IC601)
(BATT)
(CB202-5)
(CB202-6)
(IC206)
(OUT INT)
(BATT)
(CB203-1)
(CB203-2)
(A MUTE)
(OUT REM)
SD1301 CLAMP SOLENOID
S1301 CAM END SW
CB102
Q104 2SB1242
R175 10K
R176 1K -1/4
D101 11ES2
Q106 DTC124EU
SOLENOID DRIVER
R174 10K
C604 0.01
R177 470K
D102 DAN202U
C603 0.01
E106 10/16
Q105 2SD1383K
Q606 DTA124EU
Q607 DTC124EU
RESET CIRCUIT
Q108 DTC144EU
LOADING CONTROL
Q107 DTA114EU
R609 4.7K
IC602 S-8052HNM-CR
E602 10/16
OUT
Vref
RESET CIRCUIT
Q604 DTA124EU
D602 DAN202U
R606 47K
Q605 DTC144EU
WATCH DOG
Q602 DTC124EU
R605 100K
C602 0.022
Q603 DTC144EU
E601 47/10
D601 DAN202U
C601 0.01
R608 100K
(RESET)
(LOAD CONT)
R629 100K
R632 22K
D603 MA165
E603 10/16
V-OUT SWITCHING
Q601 DTA124EU
R612 100K
R613 100K
(A-HOLD)
(B-HOLD)
X601 4.19MHz
R633 100K
IC601 16449W15
μ-COM
LOCK
BUCK
CCE
BUS 0
BUS 1
BUS 2
BUS 3
GND
CD-RESET
FM LEVEL
F-CONT
PULL UP SW
V-CONT
LOAD-CONT
LOAD-FWD
LOAD -BWD
CAM-END
SOLENOID
A-MUTE
CD/TUNER
ALARM
DTS-START
A-HOLD
B-HOLD
DTS-MUTE
STS
CMD
CLOCK
GND
NC
X1
X2
RESET
TP (GND)
IN-PAUSE
IN-INT
SDK-TONE
DTS-CE
O-INT
O-REM
POWER-ON
EV-INH
EV-DATA
EV-CLOCK
ENCOD-DOWN
ENCOD-UP
T-SENSE
KEY-A/D0
KEY-A/D1
KEY-A/D2
DISC-IN
EJECT-END
RELOAD
B-END
LIMIT-SW
AREA 3
AREA 2
AREA 1
W DOG OUT
AMBER
LCD-CE
LCD-CLOCK
LCD-DATA
LCD-INH
V-OUT
VDD
AVREF
R628
R627
R626
100K x3
R610 100K
R616 100K
R622 100K
R615 22K
R621 10K
R620 10K
R617 10K
R618 10K
R619 10K
ZD601 HZS5BLL
R614 10K
TH601 100K
R601 100K
(SW 5V)
(B-HOLD)
(A-HOLD)
(PULL UP)
(PULL UP)
(SW 5V)
(μCOM +5V)
(MUTE)
(IN PAUSE)
(μCOM +5V)
(POWER ON)
(IN INT)
R602
R603
R604
10K x 3
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
D809 DAN202U
D808 DAN202U
E812 330/6.3
R835 10K
BA601 CR2032
Q823 DTA124EU
E811 10/16
SWITCHING 5V
Q822 DTA114EU
ACC DETECTOR
R831 10K
R832 82K
R830 100K
Q821 2SD601A
D807 DAN202U
R829 10K
E810 1/50
R827 3.3K -1/4
(ACC)
R828 47K -1/8
ZD804 HZS6B1L
(POWER ON)
R810 22K
Q809 DTA114EU
AUDIO MUTE CONTROL
Q810 DTA124EU
Q811 DTC124EU
Q830 2SD2008Q
LAMP +B
R839 470 -1/4
ZD805 HZS9A2L
ZD807 HZS11A3L
E815 1/50
DIMMER CONTROL
Q829 DTC124EU
(MUTE)
(POWER ON)
(IN INT)
(IN PAUSE)
(KNOB IND)
(LCD IND)
R930 22 -1/4
(DRIVER +B)
CH601
CH1301
HD1201 PICK-UP UNIT 2/2
FOCUS COIL
TRACKING COIL
(LIMIT-SW)
(TRACKING)
(FOCUS)
(COM)
(SPINDLE)
(SLED)
S1302 LIMIT SW
M1302 SPINDLE MOTOR
M1303 SLED MOTOR
CB1301
LD1304
AN501-B1
LED P.C. Board
8cm CD END DETECTOR
PT1304 PT360
CD Mechanism (DP24A210)
R1302 560
R1301 390
LD1301
LD1302
LD1303
AN501-B1 x3
Load / Photo (2) P.C. Board
8cm CD RELOAD DETECTOR
PT1302 PT360
PT1303 PT360
PT1301 PT360
CD IN/OUT DETECTOR
12cm CD EJECT END DETECTOR
Load / Photo (1) P.C. Board
R1310 560
R1311 100K
R1305 100K
R1306 100K
R1304 100K
R1309 4.7 -1/4
R1308 4.7 -1/4
IC1301 LB1641
INPUT LOGIC BLOCK
PRE-DRIVER
LOADING MOTOR DRIVER
ZD1301 UTZJ6.2C
C1301 0.01
C1302 0.01
M1301 LOADING MOTOR
(RESET)
S918 RESET
IC902 BA226F
WAVE-FORM SHAPING CIRCUIT
D901 DAN202U
R922 10K
D902 DAN202U
R925 10K
R923 4.7K
R924 4.7K
C902 0.01
R921 470K
C904 0.15
C905 0.15
CR
C903 0.01
R920 470K
C906 0.022
DOWN
UP
MODE
S919-2
S919-1
ROTARY ENCODER
R919 33K
R918 12K
R917 5.6K
R916 3.3K
R915 2.2K
D.A.P. S917
MD/DX S916
P.SCAN S915
SDK S914
POWER S913
R914 33K
R913 12K
R912 5.6K
R911 3.3K
R910 2.2K
UP S912
1/M.I.X S911
2/REPEAT S910
3/SCAN S909
TUNE/DISP S908
EJECT S907
R909 33K
R908 12K
R907 5.6K
R906 3.3K
R905 2.2K
DOWN S906
4 S905
5 S904
6 S903
DISC S902
TUNER S901
Front P.C. Board
(A/D0)
(A/D1)
(A/D2)
E901 10/16
IC901 LC7582A
(COM1)
(COM2)
(DATA)
(CLK)
(CE)
(Vss)
(INH)
(VDD)
(OSC)
(S53, AD05)
(S52, AD04)
(S51, AD03)
(S50, AD02)
(S49, AD01)
(S48, DSP OUT)
R901 47K
C901 680P
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
ADC
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
OPEN
LCD DRIVER
(S47, AD1)
(S46, DSP1)
(S45, AD2)
(S44, DSP2)
(AMBER)
PL908 10V 60mA
PL907 10V 60mA
PL906 10V 60mA
R926 15 -1/4
R927 15 -1/4
R903 1K -1/4
Q905 DTC114TU
Q904 2SC2411K
LIGHTING SWITCH (2 COLORS)
Q903 DTC343T
A
B
C
D
E
F
G
H


IC601
IC902
IC803
IC901
Q601
Q823
Q822
Q821
Q809
Q830
Q810
Q829
Q811
Q828
Q827
Q812
Q824
Q825
Q826
Q905
Q904
Q903
Q902
Q901
(CB202-5)
(CB202-6)
(IC206)
(OUT INT)
(BATT)
(CB203-1)
(CB203-2)
(A MUTE)
(OUT REM)
(ACC)
TO MAIN P.C. BOARD (4/4)
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
Q810 DTA124EU
Q812 2SA1037K
Q809 DTA114EU
AUDIO MUTE CONTROL
Q811 DTC124EU
POWER ON SWITCHING
IC601 16449W15
μ-COM
X601 4.19MHz
D809 DAN202U
D808 DAN202U
Q823 DTA124EU
SWITCHING 5V
Q822 DTA114EU
ACC DETECTOR
Q821 2SD601A
Q830 2SD2008Q
Q828 2SD1858
LAMP +B
DIMMER CONTROL
Q829 DTC124EU
Q827 DTA124EU
Q826 DTC124EU
INTERRUPT IN SWITCHING
Q824 2SD601A
IN PAUSE SWITCHING
Q825 DTC124EU
V-OUT SWITCHING
Q601 DTA124EU
M1301 LOADING MOTOR
IC902 BA226F
WAVE-FORM SHAPING CIRCUIT
S918 RESET
ROTARY ENCODER
IC901 LC7582A
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
ADC
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
LCD DRIVER
LIGHTING SWITCH (2 COLORS)
Q905 DTC114TU
Q904 2SC2411K
Q903 DTC343T
Q902 2SC2411K
Q901 DTC343T
LCD901 LCD DISPLAY
CB901
CH901
Front P.C. Board

IC601

1	4.6V/0V	18	5V	33	0V	42	0V	59	PS	68	0V/5V
2	5.1V/0V	19	5V	34	PS	43	5.1V/0V	60	5V		O-REM OFF/ON
3	5V/6V	20	0V/4.6V		CD	44	5.1V/0V	61	0V		
4	5V/6V	21	0V	35	PS	45	0V/PS	62	5V	69	2.8V/0V
5	0V/5.3V	22	0V		CD	46	PS	63	5V/0V		POW ON/OFF
6	0V	23	0V	36	PS	47	5.4V/0V		IN-INT OFF/ON	70	PS
7	0V	24	0V		CD	48	4.8V/0V			71	PS
8	0V	25	0V	37	PS	49	PS	64	5V/0V	72	PS
9	5.1V	26	0V		CD	50	PS		IN-PAUSE OFF/ON	73	0V
10	PS	27	5V	38	PS	51	PS			74	PS
11	PS	28	0V/5.1V		CD	52	PS	65	5V/0V	75	PS
12	PS		TUNER/CD	39	PS	53	0V		SDK-TONE OFF/ON	76	0V
13	0V	29	0V		CD	54	0V			77	5V
14	0V	30	0V	40	5.1V	55	0V	66	PS	78	5V
15	5.1V/0V	31	5.1V/0V		CD	56	0V	67	0V/5V	79	5V
16	PS	32	0V/5V	41	0V/5.1V	57	0V		O-INT OFF/ON	80	5V
17	5V		TUNER/CD		DISC IN/OUT	58	PS				

IC602

1	5.1V
2	5.1V
3	0V

IC803

1	5.4V
2	5.8V
3	0V

IC901

1	NC	17	NC	33	PS	49	PS
2	NC	18	NC	34	PS	50	PS
3	PS	19	NC	35	PS	51	PS
4	PS	20	NC	36	PS	52	PS
5	PS	21	NC	37	PS	53	PS
6	PS	22	NC	38	PS	54	NC
7	PS	23	NC	39	PS	55	0V
8	PS	24	NC	40	PS	56	5V
9	NC	25	NC	41	PS	57	PS
10	NC	26	NC	42	PS	58	5V
11	NC	27	NC	43	PS	59	PS
12	NC	28	NC	44	PS	60	0V
13	NC	29	PS	45	PS	61	PS
14	NC	30	PS	46	PS	62	PS
15	NC	31	PS	47	PS	63	PS
16	NC	32	PS	48	PS	64	PS

IC902

1	0.1V
2	0V
3	0V
4	0V
5	0V
6	0V
7	0.1V
8	0V

IC1301

1	0V
2	6V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	0V
10	6V

	E	C	B		E	C	B
Q104	14V	0V	0V	Q821	0.6V	0V	0V
Q105	0V	0V	0V	Q822	0V	5.4V	5.4V
Q106	0V	13.6V	0V	Q823	0.2V	5.2V	5.2V
Q107	5.1V	−0.1V	5.1V	Q824	0V	5V	0V
Q108	0V	5.1V	0V	Q825	0V	4.9V	0V
Q601	0V	5.1V	5.1V	Q826	2.7V	0V	0V
Q602	0V	5.1V	0V	Q827	14V	0V	14V
Q603	0.2V	0.1V	0V	Q828	11.6V	13.8V	13.3V
Q604	5.2V	0V	5.1V	Q829	0V	2V	0V
Q605	0V	0.1V	0V	Q830	9.3V	13.8V	10V
Q606	5.1V	0V	4.9V	Q901	0V	11.3V	0.1V
Q607	0V	4.9V	0V	Q902	0V	11.3V	0.1V
Q809	5.1V	0V	5.1V	Q903	0.1V	11.2V	0.1V
Q810	13.7V	3.3V	13.7V	Q904	0.1V	9.1V	0.1V
Q811	0V	13.7V	0V	Q905	9.1V	0.1V	0.1V
Q812	8.5V	0.1V	9.1V				

[Measuring Conditions]

* Power Supply Voltage : DC14V
* Measuring Meter : Digital Multi Voltmeter
* Measuring Point Reference : Between Ground
* Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

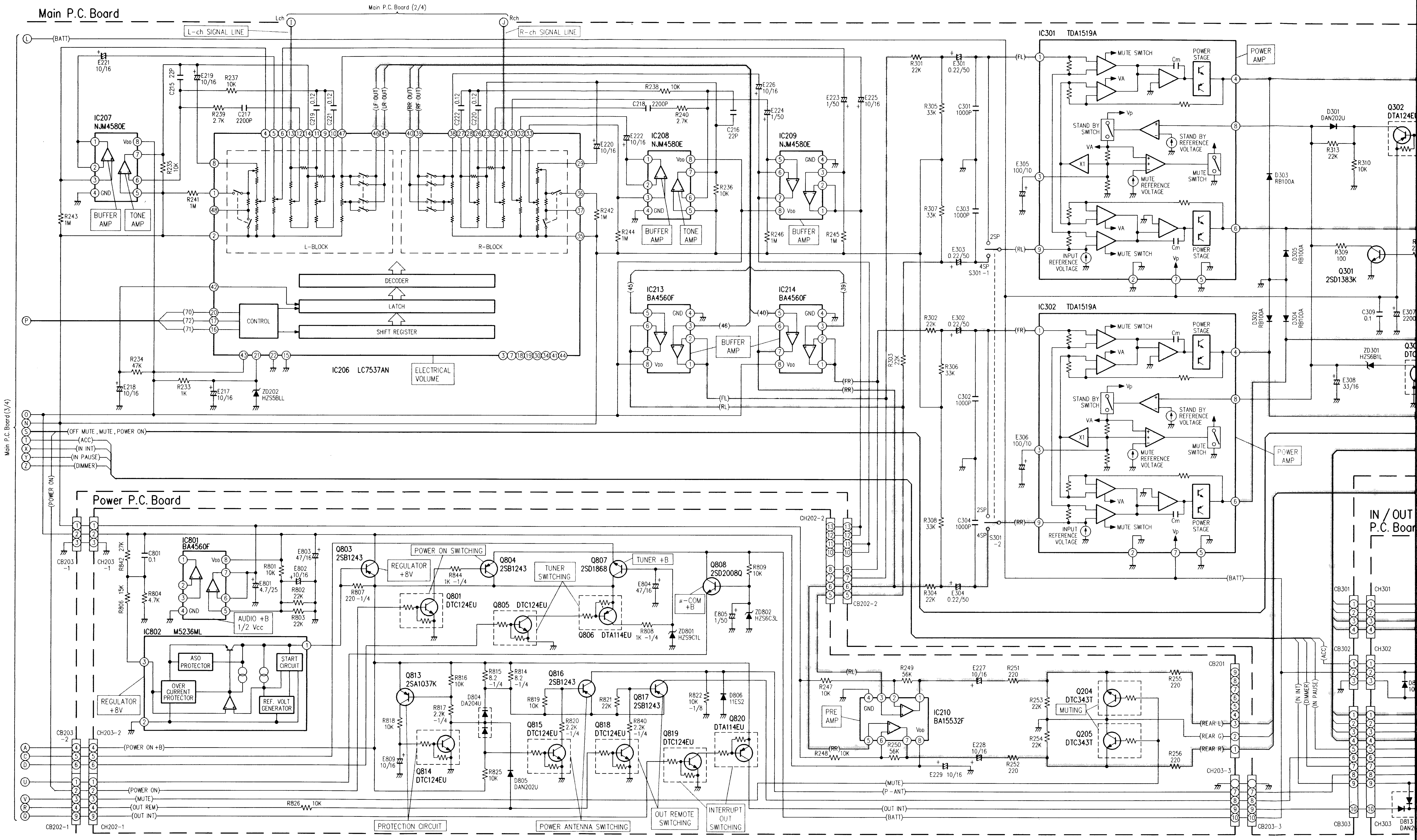
▒▒▒	Focus Servo Signal Line
▒ ▒	Tracking Servo Signal Line
┈┈	Spindle Servo Signal Line
·	Sled Servo Signal Line

NOTES:

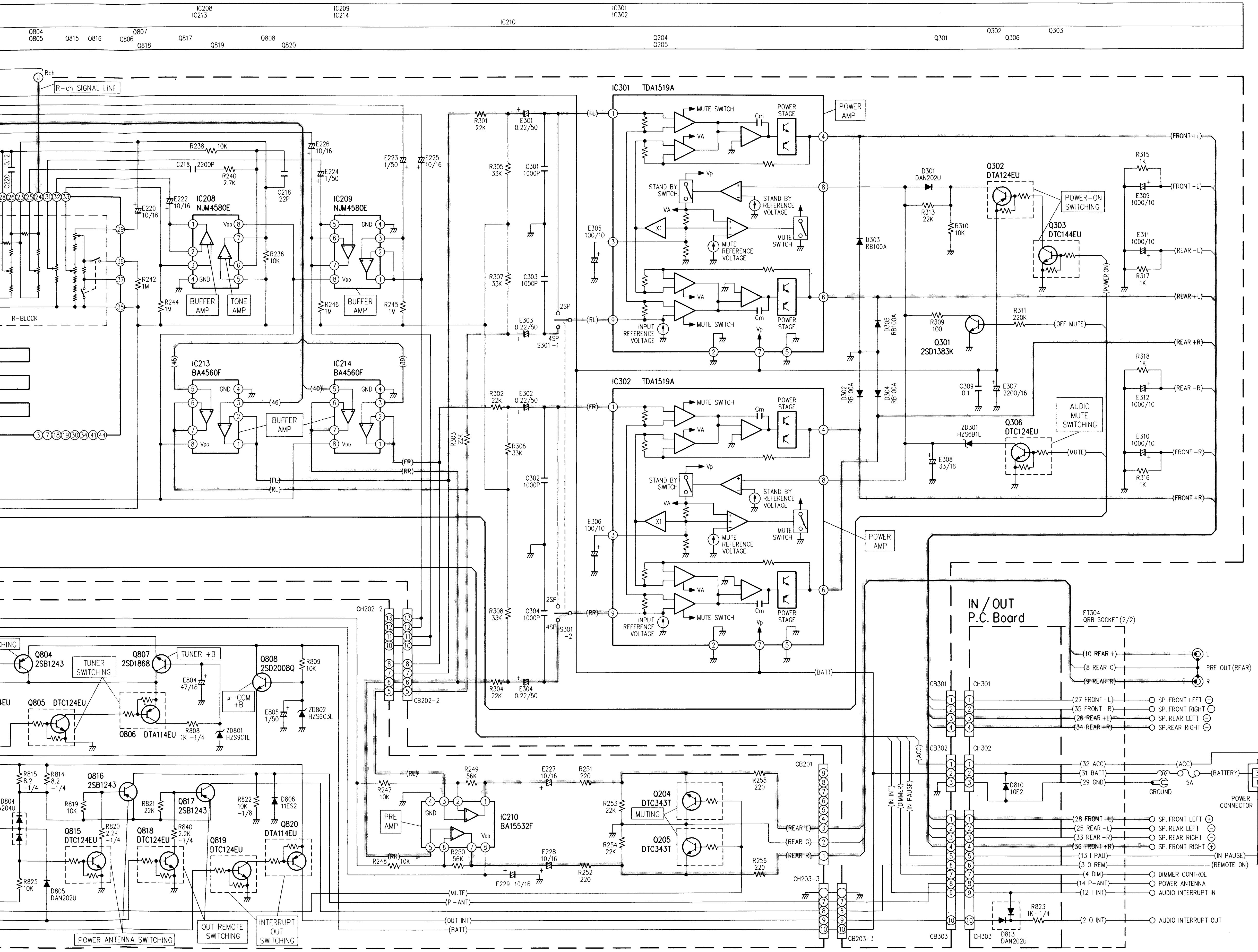
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

Schematic Diagram (4/4)

IC	IC207 IC802 IC801 IC206 IC208 IC213 IC209 IC214 IC210 IC301 IC302
Transistor (Q)	Q803 Q813 Q814 Q801 Q804 Q805 Q815 Q816 Q807 Q806 Q818 Q817 Q819 Q808 Q820 Q204 Q205 Q301 Q302



Main P.C. Board
Main P.C. Board (2/4)
Lch
Rch
L-ch SIGNAL LINE
R-ch SIGNAL LINE
(BATT)
IC207 NJM4580E
BUFFER AMP
TONE AMP
IC206 LC7537AN
L-BLOCK
R-BLOCK
DECODER
LATCH
SHIFT REGISTER
CONTROL
ELECTRICAL VOLUME
IC208 NJM4580E
IC209 NJM4580E
IC213 BA4560F
IC214 BA4560F
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
INPUT REFERENCE VOLTAGE
S301-1
S301-2
2SP
4SP
D301 DAN202U
Q302 DTA124EU
Q301 2SD1383K
ZD301 HZS6B1L
Main P.C. Board (3/4)
(OFF MUTE, MUTE, POWER ON)
(ACC)
(IN INT)
(IN PAUSE)
(DIMMER)
(POWER ON)
Power P.C. Board
IC801 BA4560F
AUDIO +B 1/2 Vcc
IC802 M5236ML
ASO PROTECTOR
OVER CURRENT PROTECTOR
START CIRCUIT
REF. VOLT GENERATOR
REGULATOR +8V
Q803 2SB1243
POWER ON SWITCHING
Q801 DTC124EU
Q804 2SB1243
Q805 DTC124EU
TUNER SWITCHING
Q807 2SD1868
TUNER +B
Q806 DTA114EU
Q808 2SD2008Q
μ-COM +B
ZD801 HZS9C1L
ZD802 HZS6C3L
Q813 2SA1037K
Q814 DTC124EU
D804 DA204U
D805 DAN202U
Q816 2SB1243
Q815 DTC124EU
Q817 2SB1243
Q818 DTC124EU
Q819 DTC124EU
Q820 DTA114EU
D806 11ES2
PROTECTION CIRCUIT
POWER ANTENNA SWITCHING
OUT REMOTE SWITCHING
INTERRUPT OUT SWITCHING
(POWER ON +B)
(MUTE)
(OUT REM)
(OUT INT)
CB202-1
CH202-1
CB203-1
CH203-1
CB203-2
CH203-2
CH202-2
CB202-2
IC210 BA15532F
PRE AMP
Q204 DTC343T
Q205 DTC343T
MUTING
(REAR L)
(REAR G)
(REAR R)
(P-ANT)
CB201
CH203-3
CB203-3
IN / OUT P.C. Boar
CB301
CH301
CB302
CH302
CB303
CH303
1
2
3
4
5
A
B
C
D
E
F
G
H


IC208 IC213
IC209 IC214
IC210
IC301 IC302
Q804 Q805 Q815 Q816 Q807 Q806 Q818 Q817 Q819 Q808 Q820
Q204 Q205
Q301 Q302 Q306 Q303
Rch
R-ch SIGNAL LINE
R-BLOCK
IC208 NJM4580E
IC209 NJM4580E
BUFFER AMP
TONE AMP
IC213 BA4560F
IC214 BA4560F
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
INPUT REFERENCE VOLTAGE
(FRONT +L)
(FRONT -L)
(REAR -L)
(REAR +L)
(REAR +R)
(REAR -R)
(FRONT -R)
(FRONT +R)
(OFF MUTE)
(MUTE)
(POWER ON)
(BATT)
Q302 DTA124EU
Q303 DTC144EU
Q301 2SD1383K
Q306 DTC124EU
POWER-ON SWITCHING
AUDIO MUTE SWITCHING
D301 DAN202U
D303 RB100A
D302 RB100A
D304 RB100A
D305 RB100A
ZD301 HZS6B1L
S301-1
S301-2
2SP
4SP
CH202-2
CB202-2
Q804 2SB1243
Q807 2SD1868
Q808 2SD2008Q
Q805 DTC124EU
Q806 DTA114EU
TUNER SWITCHING
TUNER +B
μ-COM +B
ZD801 HZS9C1L
ZD802 HZS6C3L
Q816 2SB1243
Q817 2SB1243
Q815 DTC124EU
Q818 DTC124EU
Q819 DTC124EU
Q820 DTA114EU
D806 11ES2
D805 DAN202U
POWER ANTENNA SWITCHING
OUT REMOTE SWITCHING
INTERRUPT OUT SWITCHING
IC210 BA15532F
PRE AMP
Q204 DTC343T
Q205 DTC343T
MUTING
CB201
CH203-3
CB203-3
IN / OUT P.C. Board
ET304 QRB SOCKET (2/2)
CB301 CH301
CB302 CH302
CB303 CH303
D810 10E2
D813 DAN202U
R823 1K -1/4
PRE OUT (REAR)
L
R
SP. FRONT LEFT ⊖
SP. FRONT RIGHT ⊖
SP. REAR LEFT ⊕
SP. REAR RIGHT ⊕
SP. FRONT LEFT ⊕
SP. REAR LEFT ⊖
SP. REAR RIGHT ⊖
SP. FRONT RIGHT ⊕
GROUND
5A
(BATTERY)
POWER CONNECTOR
DIMMER CONTROL
POWER ANTENNA
AUDIO INTERRUPT IN
AUDIO INTERRUPT OUT
(IN PAUSE)
(REMOTE ON)
(ACC)
(IN INT)
(DIMMER)
(IN PAUSE)

IC206

1	3.8V	13	AD 4.4V	25	AD 4.4V	37	4.4V
2	4.1V	14	AD 4.4V	26	4.4V	38	AD 4.4V
3	0V	15	0V	27	AD 4.4V	39	AD 4.4V
4	AD 4.1V	16	0V	28	4.4V	40	AD 4.4V
5	AD 3.9V	17	0V	29	AD 4.4V	41	NC
6	3.9V	18	0V	30	NC	42	8.3V
7	NC	19	8.3V	31	AD 4.4V	43	8.3V
8	AD 4.4V	20	0V	32	AD 4.4V	44	NC
9	4.4V	21	5V	33	AD 4.4V	45	AD 4.4V
10	AD 4.4V	22	5.1V	34	NC	46	AD 4.4V
11	AD 4.4V	23	0V	35	4.4V	47	AD 4.4V
12	4.4V	24	AD 4.4V	36	3.7V	48	NC

IC207

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC208

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC209

1	4.7V
2	4.7V
3	4.3V
4	0V
5	4.3V
6	4.7V
7	4.7V
8	8.9V

IC210

1	4.7V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.7V
8	8.9V

IC213

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC214

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC301

1	2V
2	0V
3	6.7V
4	6.6V
5	0V
6	6.7V
7	14.1V
8	7.5V
9	2V

IC302

1	2V
2	0V
3	6.7V
4	6.7V
5	0V
6	6.7V
7	14.1V
8	7.5V
8	2V

IC801

1	0V
2	0V
3	0V
4	0V
5	4.1V
6	4.1V
7	4.1V
8	8.3V

IC802

1	1.2V
2	0V
3	12.7V

	E	C	B
Q204	13.7V	0V	0V
Q205	13.7V	0V	0V
Q301	0V	7.4V	0.3V
Q302	0V	13.7V	13.8V
Q303	2.7V	0V	0V
Q306	5V	0V	0V
Q801	0V	0V	2.7V
Q803	13.1V	8.9V	12.5V
Q804	13.8V	13.7V	13.1V
Q805	0V	0V	0V
Q806	0V	0V	0V
Q807	9.3V	13.7V	8.7V
Q808	5.8V	13.8V	6.4V
Q813	0V		
Q814	0V	13.7V	0V
Q815	9.7V	0V	0V
Q816	13.7V	13.7V	13.1V
Q817	13.7V	13.7V	13V
Q818	13.6V	0.1V	0V
Q819	0V	13.6V	0V
Q820	13.6V	0V	13.6V

[Measuring Conditions]

- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :

  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).

  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

Electrical Parts LIst

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μF = microfarads, pF = picofarads

Abbreviations

RES. = Resistor
C.F. = Carbon Film
M.F. = Metal Film
M.O. = Metal Oxide Film
M.P. = Metal Plate
TR. = Transistor
TRANS. = Transformer
CP. = Chip

CAP. = Capacitor
ELY. = Electrolytic
CER. = Ceramic
MYL. = Mylar
TAN. = Tantalum
POLY. = Polystyrol
PP. = Polypropylene
PLT. = Polyethylene
PF. = Polyester Film

Main P. C. Board

IC's

Symbol No.	Part No.	Description
IC001	51T94316F02	AN7465S
IC002	51T93333F01	NJM2904M
IC003	51T96030F01	μPC1675G
IC004	51T35246W01	35246W01
IC005	51T15655W02	TDA1579T
IC101	51T25985W01	TC9236F
IC102	51T25984W01	TA8191F
IC103	51T15264W01	TCA0372M
IC104	51T15264W01	TCA0372M
IC105	51T90889F03	LA6501-TL
IC106	51T35105W02	SM5840CS
IC109	51T35229W01	TC7SU04F
IC201	51T35409W03	PCM67U
IC202	51T92001F01	BA4560F
IC203	51T92001F01	BA4560F
IC204	51T15270W01	BU4052BF
IC205	51T25154W01	BA15532F
IC206	51T72016F02	LC7537AN
IC207	51T25576W04	NJM4580E
IC208	51T25576W04	NJM4580E
IC209	51T25576W04	NJM4580E
IC213	51T92001F01	BA4560F
IC214	51T92001F01	BA4560F
IC301	51T35408W01	TDA1519A
IC302	51T35408W01	TDA1519A
IC601	51T16449W15	16449W15
IC602	51T95014F13	S-8052HNM-CR
IC701	51T15510W01	MC34063M
IC803	51T92166F02	S-8054ALO

Transistors

Symbol No.	Part No.	Description
Q001	48T52438F01	CP., 2SD601A
Q002	48T63420F01	CP., 2SA1037K
Q003	48T94606F55	CP., DTA114TU
Q004	48T94606F05	CP., DTC114TU
Q005	48T94606F53	CP., DTA124EU
Q006	48T94606F03	CP., DTC124EU
Q007	48T90181F05	2SD1993
Q009	48T90181F05	2SD1993
Q010	48T94606F03	CP., DTC124EU
Q011	48T94606F03	CP., DTC124EU
Q012	48T94606F03	CP., DTC124EU
Q013	48T84234F03	2SB1238
Q014	48T84234F03	2SB1238
Q015	48T94606F03	CP., DTC124EU
Q016	48T94606F03	CP., DTC124EU
Q017	48T52438F01	CP., 2SD601A
Q018	48T94606F03	CP., DTC124EU
Q019	48T94606F05	CP., DTC114TU
Q020	48T94606F05	CP., DTC114TU
Q101	48T94606F03	CP., DTC124EU
Q102	48T63420F01	CP., 2SA1037K
Q103	48T84366F04	2SB1243
Q104	48T83419F04	2SB1242
Q105	48T81552F01	2SD1383K
Q106	48T94606F03	CP., DTC124EU
Q107	48T94606F56	CP., DTA114EU
Q108	48T94606F01	CP., DTC144EU
Q110	48T94606F06	CP., DTC114EU
Q111	48T52438F01	CP., 2SD601A
Q112	48T94606F05	CP., DTC114TU
Q113	48T94606F05	CP., DTC114TU
Q115	48T94606F53	CP., DTA124EU
Q201	48T52438F01	CP., 2SD601A
Q202	48T94606F01	CP., DTC144EU
Q203	48T94606F01	CP., DTC144EU
Q301	48T81552F01	2SD1383K
Q302	48T94606F53	CP., DTA124EU
Q303	48T94606F01	CP., DTC144EU
Q306	48T94606F03	CP., DTC124EU
Q601	48T94606F53	CP., DTA124EU
Q602	48T94606F03	CP., DTC124EU
Q603	48T94606F01	CP., DTC144EU
Q604	48T94606F53	CP., DTA124EU
Q605	48T94606F01	CP., DTC144EU
Q606	48T94606F53	CP., DTA124EU
Q607	48T94606F03	CP., DTC124EU
Q701	48T94606F03	CP., DTC124EU

Symbol No.	Part No.	Description
Q702	48T94606F53	CP., DTA124EU
Q703	48T15511W02	CP., 2SB1261
Q704	48T83415F03	2SD1858
Q809	48T94606F56	CP., DTA114EU
Q810	48T94606F53	CP., DTA124EU
Q811	48T94606F03	CP., DTC124EU
Q812	48T63420F01	CP., 2SA1037K
Q821	48T52438F01	CP., 2SD601A
Q822	48T94606F56	CP., DTA114EU
Q823	48T94606F53	CP., DTA124EU
Q824	48T52438F01	CP., 2SD601A
Q825	48T94606F03	CP., DTC124EU
Q826	48T94606F03	CP., DTC124EU
Q827	48T94606F53	CP., DTA124EU
Q828	48T83415F03	2SD1858
Q829	48T94606F03	CP., DTC124EU
Q830	48T15289W03	2SD2008Q

Diodes

Symbol No.	Part No.	Description
D001	48T94608F03	CP., DAN202U
D002	48T94608F03	CP., DAN202U
D003	48T94608F03	CP., DAN202U
D004	48T94608F03	CP., DAN202U
D005	48T94608F03	CP., DAN202U
D007	48T94608F03	CP., DAN202U
D101	48T84052F11	11ES2
D102	48T94608F03	CP., DAN202U
D103	48T94608F03	CP., DAN202U
D104	48T94608F03	CP., DAN202U
D301	48T94608F03	CP., DAN202U
D302	48T25664W01	RB100A
D303	48T25664W01	RB100A
D304	48T25664W01	RB100A
D305	48T25664W01	RB100A
D601	48T94608F03	CP., DAN202U
D602	48T94608F03	CP., DAN202U
D603	48T44813F02	MA165
D701	48T15702W01	SB05-05CP
D801	48T94608F03	CP., DAN202U
D802	48T94608F03	CP., DAN202U
D803	48T84052F11	11ES2
D807	48T94608F03	CP., DAN202U
D808	48T94608F03	CP., DAN202U
D809	48T94608F03	CP., DAN202U

Symbol No.	Part No.	Description
ZD002	48T25766W24	Zener, HZS9C1L
ZD201	48T25766W04	Zener, HZS6B1L
ZD202	48T25801W11	Zener, HZS5BLL
ZD301	48T25766W04	Zener, HZS6B1L
ZD601	48T25801W11	Zener, HZS5BLL
ZD701	48T25766W04	Zener, HZS6B1L
ZD803	48T25766W24	Zener, HZS9C1L
ZD804	48T25766W04	Zener, HZS6B1L
ZD805	48T83128F20	Zener, HZS9A2L
ZD806	48T25766W24	Zener, HZS9C1L
ZD807	48T25766W24	Zener, HZS11A3L

Coils / Switch

Symbol No.	Part No.	Description
L001	24T25798W13	Inductor, 1mH
L002	24T84175F01	SDK (57KHz)
L701	24T71179F05	Inductor, 220μH
L702	24T16271W13	220μH
S301	40T72577F02	Switch, Slide SSSS-2H (2SP / 4SP)

Crystals / Thermistor

Symbol No.	Part No.	Description
X001	91T25806W23	4.5MHz
X101	91T25806W92	16.9344MHz
X601	91T15285W01	CER., Lock 4.19MHz
TH601	48T93439F06	Thermistor, 100K ohm

Capacitors

Symbol No.	Part No.	Description	
C001	08S65128F69	CP.,	0.01μF
E001	23S61523F09	ELY.,	22μF / 10V
C002	08S65128F67	CP.,	6800pF
E002	23S61523F25	ELY.,	0.1μF / 50V
C003	08T52448F03	PP.,	390pF
E003	23S61523F25	ELY.,	0.1μF / 50V
C004	08S65128F74	CP.,	0.047μF
E004	23S61523F26	ELY.,	0.22μF / 50V
C005	08S65128F74	CP.,	0.047μF
E005	23S61523F29	ELY.,	1μF / 50V

Symbol No.	Part No.	Description
C006	08S65128F63	CP., 3300pF
E006	23S61523F25	ELY., 0.1μF / 50V
C007	08S65128F69	CP., 0.01μF
E007	23S61523F17	ELY., 4.7μF / 25V
C008	08S82122F47	CP., 270pF
E008	23S61523F17	ELY., 4.7μF / 25V
C009	08S65128F69	CP., 0.01μF
E009	23S61523F29	ELY., 1μF / 50V
C010	08S65128F78	CP., 0.022μF
E010	23S61523F29	ELY., 1μF / 50V
C011	08S65128F78	CP., 0.022μF
E011	23S61523F29	ELY., 1μF / 50V
C012	08S65128F69	CP., 0.01μF
C013	08S65128F69	CP., 0.01μF
E013	23T16086W01	ELY., 220μF / 10V
C014	21C45322G29	CER., 2200pF
E014	23S61523F29	ELY., 1μF / 50V
C015	08S65128F69	CP., 0.01μF
E015	23S61523F29	ELY., 1μF / 50V
C016	08S65128F69	CP., 0.01μF
E016	23S61523F09	ELY., 22μF / 10V
C017	08S65128F57	CP., 1000pF
E017	23S61523F08	ELY., 100μF / 6.3V
C018	08S65128F69	CP., 0.01μF
E018	23S61523F17	ELY., 4.7μF / 25V
C019	08S65128F72	CP., 0.022μF
E019	23S61523F25	ELY., 0.1μF / 50V
C020	08S65128F79	CP., 0.027μF
E020	23S61523F29	ELY., 1μF / 50V
C021	08S65128F63	CP., 3300pF
E021	23S61523F29	ELY., 1μF / 50V
C022	08T90316F25	TF, 0.047μF
E022	23S61523F25	ELY., 0.1μF / 50V
C023	08S65128F69	CP., 0.01μF
E023	23S61523F27	ELY., 0.33μF / 50V
C024	08S65128F69	CP., 0.01μF
E024	23S61523F12	ELY., 10μF / 16V
C026	08T15399W02	CP., 0.033μF
C027	08T15399W02	CP., 0.033μF
C028	08T15399W02	CP., 0.033μF
C029	08S65128F57	CP., 1000pF
C030	08S65128F69	CP., 0.01μF
C031	08S65128F69	CP., 0.01μF
C032	08S82122F25	CP., 33pF
C033	08S65128F57	CP., 1000pF
C034	08S65128F69	CP., 0.01μF
C035	08S65128F69	CP., 0.01μF
C036	08S65128F72	CP., 0.022μF
C037	08S82122F37	CP., 100pF
C038	08S82122F37	CP., 100pF
C039	08S82122F37	CP., 100pF
C040	08S82122F21	CP., 22pF

Symbol No.	Part No.	Description
C041	08S82122F21	CP., 22pF
C042	08S65128F59	CP., 1500pF
C043	08T90316F28	TF, 0.082μF
C044	08T90316F27	TF, 0.068μF
C045	08T90316F27	TF, 0.068μF
C046	08T90316F29	TF, 0.1μF
C047	08T90316F25	TF, 0.047μF
C048	08T90316F25	TF, 0.047μF
C049	08T90316F23	TF, 0.033μF
C101	08S65128F69	CP., 0.01μF
E101	23S61523F08	ELY., 100μF / 6.3V
E102	23T74437F32	TAN., 10μF / 16V
C103	08S82122F13	CP., 10pF
E103	23S61523F12	ELY., 10μF / 16V
C104	08S82122F13	CP., 10pF
E104	23T74437F32	TAN., 10μF / 16V
C105	08S65128F63	CP., 3300pF
E105	23S61523F31	ELY., 3.3μF / 50V
C106	08S65128F63	CP., 3300pF
E106	23S61523F12	ELY., 10μF,/ 16V
C107	08S82122F37	CP., 100pF
E107	23T74437F32	TAN., 10μF / 16V
C108	08S65128F69	CP., 0.01μF
E108	23S61523F11	ELY., 47μF / 10V
C109	08S65128F69	CP., 0.01μF
E109	23S61523F11	ELY., 47μF / 10V
C110	08S65128F69	CP., 0.01μF
C111	08S65128F57	CP., 1000pF
C113	08S65128F78	CP., 0.022μF
C114	08S65128F64	CP., 3900pF
C115	08T15807W05	CP., 0.1μF
C116	08S82122F45	CP., 220pF
C117	08S65128F62	CP., 2700pF
E117	23S61523F28	ELY., 0.47μF / 50V
C118	08T15399W03	CP., 0.047μF
E118	23T74437F32	TAN., 10μF / 16V
C119	08S82122F31	CP., 56pF
E119	23T74437F32	TAN., 10μF / 16V
C120	08S65128F69	CP., 0.01μF
E120	23S61523F12	ELY., 10μF / 16V
C121	08S82122F15	CP., 12pF
E121	23S61523F12	ELY., 10μF / 16V
C122	08T65128F69	CP., 0.01μF
C123	08T15807W05	CP., 0.1μF
C124	08S82122F08	CP., 5pF
C125	08S65128F69	CP., 0.01μF
C126	08T15807W05	CP., 0.1μF
C127	08T15807W05	CP., 0.1μF
C128	08S65128F69	CP., 0.01μF
E128	23T74437F32	TAN., 10μF / 16V
C129	08S65128F69	CP., 0.01μF
C130	08S65128F65	CP., 4700pF

Symbol No.	Part No.	Description	
C131	08S65128F74	CP.,	0.047μF
C132	08S65128F74	CP.,	0.047μF
C133	08S65128F69	CP.,	0.01μF
C140	08S65128F65	CP.,	4700pF
E140	23S41059P26	TAN.,	10μF / 16V
C141	08T15807W05	CP.,	0.1μF
E141	23T74437F32	TAN.,	10μF / 16V
C142	08S65128F60	CP.,	1800pF
C143	08S65128F69	CP.,	0.01μF
C201	08S82122F49	CP.,	330pF
E201	23T25149W13	ELY.,	100μF / 10V
C202	08S82122F49	CP.,	330pF
E202	23T25149W13	ELY.,	100μF / 10V
C203	08T90316F15	TF,	6800pF
E203	23T25149W09	ELY.,	10μF / 16V
C204	08T90316F15	TF,	6800pF
E204	23T25149W09	ELY.,	10μF / 16V
C205	08S82122F49	CP.,	330pF
E205	23T25149W09	ELY.,	10μF / 16V
C206	08S82122F49	CP.,	330pF
E206	23T25149W09	ELY.,	10μF / 16V
C207	08T90316F16	TF,	8200pF
E207	23T25149W13	ELY.,	100μF / 10V
C208	08T90316F16	TF,	8200pF
E208	23T25149W13	ELY.,	100μF / 10V
C209	08S82122F37	CP.,	100pF
E209	23T25149W15	ELY.,	4.7μF / 35V
C210	08S82122F37	CP.,	100pF
E210	23T25149W12	ELY.,	47μF / 16V
C211	08S82122F21	CP.,	22pF
E211	23T25149W09	ELY.,	10μF / 16V
C212	08S82122F21	CP.,	22pF
E212	23T25149W09	ELY.,	10μF / 16V
C213	08S65128F78	CP.,	0.022μF
E213	23T25149W15	ELY.,	4.7μF / 35V
C214	08S65128F69	CP.,	0.01μF
E214	23T25149W15	ELY.,	4.7μF / 35V
C215	08S82122F21	CP.,	22pF
E215	23T25149W09	ELY.,	10μF / 16V
C216	08S82122F21	CP.,	22pF
E216	23T25149W09	ELY.,	10μF / 16V
C217	08T90316F09	TF,	2200pF
E217	23T25149W09	ELY.,	10μF / 16V
C218	08T90316F09	TF,	2200pF
E218	23T25149W09	ELY.,	10μF / 16V
C219	08T90316F30	TF,	0.12μF
E219	23T25149W09	ELY.,	10μF / 16V
C220	08T90316F30	TF,	0.12μF
E220	23T25149W09	ELY.,	10μF / 16V
C221	08T90316F30	TF,	0.12μF
E221	23T25149W09	ELY.,	10μF / 16V
C222	08T90316F30	TF,	0.12μF

Symbol No.	Part No.	Description		
E222	23T25149W09	ELY.,		10μF / 16V
E223	23T25149W05	ELY.,		1μF / 50V
E224	23T25149W05	ELY.,		1μF / 50V
E225	23T25149W09	ELY.,		10μF / 16V
E226	23T25149W09	ELY.,		10μF / 16V
C227	08S65128F69	CP.,		0.01μF
C228	08S65128F69	CP.,		0.01μF
C301	08S65128F57	CP.,		1000pF
E301	23T25149W02	ELY.,		0.22μF / 50V
C302	08S65128F57	CP.,		1000pF
E302	23T25149W02	ELY.,		0.22μF / 50V
C303	08S65128F57	CP.,		1000pF
E303	23T25149W02	ELY.,		0.22μF / 50V
C304	08S65128F57	CP.,		1000pF
E304	23T25149W02	ELY.,		0.22μF / 50V
E305	23T94181F08	ELY.,		100μF / 10V
E306	23T94181F08	ELY.,		100μF / 10V
E307	23T35505W02	ELY.,		2200μF / 16V
E308	23S61523F14	ELY.,		33μF / 16V
C309	08T90316F29	TF,		0.1μF
E309	23T35463W18	ELY.,		1000μF / 10V
E310	23T35463W18	ELY.,		1000μF / 10V
E311	23T35463W18	ELY.,		1000μF / 10V
E312	23T35463W18	ELY.,		1000μF / 10V
C601	08S65128F69	CP.,		0.01μF
E601	23S61523F11	ELY.,		47μF / 10V
C602	08S65128F72	CP.,		0.022μF
E602	23S61523F12	ELY.,		10μF / 16V
C603	08S65128F69	CP.,		0.01μF
E603	23S57422F09	ELY.,		10μF / 16V
C604	08S65128F69	CP.,		0.01μF
C701	08S82122F39	CP.,		120pF
E701	23S61523F12	ELY.,		10μF / 16V
C702	08S65128F76	CP.,		0.1μF
E702	23T91061F20	ELY.,		470μF / 10V
E703	23T25149W15	ELY.,		4.7μF / 35V
E704	23S61523F12	ELY.,		10μF / 16V
C802	08S65128F69	CP.,		0.01μF
E806	23S61523F28	ELY.,		0.47μF / 50V
E807	23S61523F12	ELY.,		10μF / 16V
E808	23S61523F12	ELY.,		10μF / 16V
E810	23S61523F29	ELY.,		1μF / 50V
E811	23S61523F12	ELY.,		10μF / 16V
E812	23T16086W02	ELY.,		330μF / 6.3V
E813	23S61523F13	ELY.,		22μF / 16V
E814	23T25057W14	ELY.,		1μF / 50V
E815	23S61523F29	ELY.,		1μF / 50V
C992	23T82372F19	ELY.,	(B.P)	2.2μF / 50V

Symbol No.	Part No.	Description
Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)		
R001	06S64996F18	470K ohm
R002	06T70072F05	10 ohm 1/4W
R003	06S64995F79	12K ohm
R004	06S64995F65	3.3K ohm
R005	06S64995F57	1.5K ohm
R006	06S64996F26	1M ohm
R007	06S64995F69	4.7K ohm
R008	06S64995F65	3.3K ohm
R009	06S64995F81	15K ohm
R010	06S64995F93	47K ohm
R011	06S64996F02	100K ohm
R012	06S64996F04	120K ohm
R013	06S64995F77	10K ohm
R014	06S64995F21	47 ohm
R015	06S64996F02	100K ohm
R016	06S64996F02	100K ohm
R017	06S64995F75	8.2K ohm
R018	06S64995F77	10K ohm
R019	06S64995F81	15K ohm
R020	06S64995F95	56K ohm
R021	06S64995F87	27K ohm
R022	06S64995F87	27K ohm
R023	06S64996F02	100K ohm
R024	06S64996F02	100K ohm
R025	06S64995F85	22K ohm
R026	06S64996F20	560K ohm
R027	06S64996F14	330K ohm
R028	06S64995F41	330 ohm
R029	06S64996F26	1M ohm
R030	06S64996F02	100K ohm
R031	06S64995F81	15K ohm
R032	06S64995F77	10K ohm
R033	06S64995F77	10K ohm
R034	06S64996F02	100K ohm
R035	06S64995F79	12K ohm
R036	06S64995F79	12K ohm
R037	06S64996F02	100K ohm
R038	06S64996F02	100K ohm
R039	06S64995F85	22K ohm
R040	06S64995F85	22K ohm
R041	06S64995F85	22K ohm
R042	06S64995F77	10K ohm
R043	06S64995F53	1K ohm
R044	06S64995F85	22K ohm
R045	06S64996F02	100K ohm
R046	06S64995F77	10K ohm
R047	06S64995F29	100 ohm
R048	06S64995F15	27 ohm
R049	06S64995F53	1K ohm
R050	06S64995F05	10 ohm

Symbol No.	Part No.	Description
R051	06S64995F53	1K ohm
R052	06S64995F65	3.3K ohm
R053	06S64995F53	1K ohm
R054	06S64995F75	8.2K ohm
R056	06S64995F61	2.2K ohm
R057	06S64995F61	2.2K ohm
R058	06S64995F61	2.2K ohm
R059	06T70072F37	220 ohm 1/4W
R060	06S64995F53	1K ohm
R061	06S64995F77	10K ohm
R062	06S64995F53	1K ohm
R063	06S64995F65	3.3K ohm
R064	06T70072F41	330 ohm 1/4W
R065	06S64995F77	10K ohm
R066	06S64995F77	10K ohm
R067	06S64995F77	10K ohm
R068	06S64995F71	5.6K ohm
R070	06S64996F02	100K ohm
R071	06S64995F77	10K ohm
R072	06S64995F77	10K ohm
R073	06S64995F61	2.2K ohm
R074	06S64995F65	3.3K ohm
R075	06S64995F61	2.2K ohm
R080	06S64995F69	4.7K ohm
R081	06S64996F10	220K ohm
R082	06S64996F22	680K ohm
R083	06S64995F43	390 ohm
R084	06S64996F02	100K ohm
R085	06S64995F69	4.7K ohm
R086	06S64995F93	47K ohm
R087	06S64995F97	68K ohm
R088	06S64995F77	10K ohm
R089	06S64995F97	68K ohm
R090	06S64995F91	39K ohm
R091	06S64996F10	220K ohm
R092	06S64995F77	10K ohm
R093	06S64995F97	68K ohm
R094	06S64996F22	680K ohm
R095	06S64996F04	120K ohm
R096	06S64995F53	1K ohm
R097	06S64995F73	6.8K ohm
R098	06S64995F73	6.8K ohm
R099	06S64995F77	10K ohm
R101	06S64995F73	6.8K ohm
R102	06S64996F18	470K ohm
R103	06S64995F39	270 ohm
R105	06S64995F89	33K ohm
R106	06S64995F85	22K ohm
R107	06S64996F10	220K ohm
R108	06S64996F02	100K ohm
R109	06S64995F83	18K ohm
R110	06S64995F57	1.5K ohm

Symbol No.	Part No.	Description
R111	06S64995F83	18K ohm
R112	06S64995F91	39K ohm
R113	06S64995F53	1K ohm
R114	06S64996F10	220K ohm
R115	06S64995F77	10K ohm
R116	06S64995F93	47K ohm
R117	06S64996F30	2.2M ohm
R118	06S64995F89	33K ohm
R119	06S64995F95	56K ohm
R120	06S64995F77	10K ohm
R121	06S64995F87	27K ohm
R122	06S64995F63	2.7K ohm
R123	06S64996F12	270K ohm
R124	06S64995F83	18K ohm
R125	06S64996F02	100K ohm
R126	06S64995F77	10K ohm
R127	06S64996F04	120K ohm
R128	06S64996F02	100K ohm
R129	06S64995F81	15K ohm
R130	06S64995F85	22K ohm
R131	06S64995F77	10K ohm
R132	06S64995F77	10K ohm
R133	06S64995F77	10K ohm
R134	06S64995F97	68K ohm
R135	06S64996F04	120K ohm
R136	06S64995F61	2.2K ohm
R137	06S64995F77	10K ohm
R138	06S64995F69	4.7K ohm
R139	06S64995F69	4.7K ohm
R140	06S64995F69	4.7K ohm
R141	06T70072F05	10 ohm 1/4W
R144	06S64995F53	1K ohm
R145	06S64995F47	560 ohm
R146	06S64995F81	15K ohm
R147	06S64995F97	68K ohm
R148	06S64995F85	22K ohm
R149	06S64995F77	10K ohm
R150	06S64995F77	10K ohm
R151	06S64995F85	22K ohm
R152	06S64995F85	22K ohm
R153	06S64995F77	10K ohm
R154	06S64995F77	10K ohm
R155	06S64995F85	22K ohm
R156	06S64995F85	22K ohm
R157	06S64995F77	10K ohm
R158	06S64995F77	10K ohm
R159	06S64995F85	22K ohm
R160	06S64995F85	22K ohm
R161	06S64995F77	10K ohm
R162	06S64995F77	10K ohm
R163	06S64995F85	22K ohm
R164	06S64995F77	10K ohm

Symbol No.	Part No.	Description
R165	06S64995F85	22K ohm
R166	06S64995F05	10 ohm
R167	06S64996F04	120K ohm
R168	06S64995F05	10 ohm
R169	06S64995F53	1K ohm
R170	06S64995F53	1K ohm
R171	06S64995F53	1K ohm
R172	06S64995F53	1K ohm
R173	06S64995F53	1K ohm
R174	06S64995F77	10K ohm
R175	06S64995F77	10K ohm
R176	06T70072F53	1K ohm 1/4W
R177	06S64996F18	470K ohm
R178	06S64995F65	3.3K ohm
R179	06S64995F69	4.7K ohm
R180	06S64995F77	10K ohm
R181	06S64996F02	100K ohm
R183	06S64996F10	220K ohm
R185	06S64995F83	18K ohm
R186	06S64995F53	1K ohm
R187	06S64995F53	1K ohm
R188	06S64995F65	3.3K ohm
R189	06S64996F18	470K ohm
R190	06S64995F93	47K ohm
R191	06S64995F85	22K ohm
R192	06S64995F53	1K ohm
R193	06S64995F53	1K ohm
R194	06S64995F53	1K ohm
R201	06S64995F55	1.2K ohm
R202	06S64995F55	1.2K ohm
R203	06S64995F57	1.5K ohm
R204	06S64995F57	1.5K ohm
R205	06S64995F57	1.5K ohm
R206	06S64995F57	1.5K ohm
R207	06S64995F77	10K ohm
R208	06S64995F05	10 ohm
R209	06S64995F67	3.9K ohm
R210	06S64995F67	3.9K ohm
R211	06S64995F89	33K ohm
R212	06S64995F89	33K ohm
R213	06S64995F55	1.2K ohm
R214	06S64995F55	1.2K ohm
R215	06S64995F77	10K ohm
R216	06S64995F77	10K ohm
R217	06S64995F55	1.2K ohm
R218	06S64995F55	1.2K ohm
R219	06S64995F85	22K ohm
R220	06S64995F85	22K ohm
R221	06S64995F85	22K ohm
R222	06S64995F85	22K ohm
R223	06S64995F71	5.6K ohm
R224	06S64995F71	5.6K ohm

Symbol No.	Part No.	Description
R225	06S64996F02	100K ohm
R226	06S64996F02	100K ohm
R227	06S64995F85	22K ohm
R228	06S64995F85	22K ohm
R229	06S64996F02	100K ohm
R230	06S64996F02	100K ohm
R231	06S64995F93	47K ohm
R232	06S64995F73	6.8K ohm
R233	06S64995F53	1K ohm
R234	06S64995F95	47K ohm
R235	06S64995F77	10K ohm
R236	06S64995F77	10K ohm
R237	06S64995F77	10K ohm
R238	06S64995F77	10K ohm
R239	06S64995F63	2.7K ohm
R240	06S64995F63	2.7K ohm
R241	06S64996F26	1M ohm
R242	06S64996F26	1M ohm
R243	06S64996F26	1M ohm
R244	06S64996F26	1M ohm
R245	06S64996F26	1M ohm
R246	06S64996F26	1M ohm
R301	06S64995F85	22K ohm
R302	06S64995F85	22K ohm
R303	06S64995F85	22K ohm
R304	06S64995F85	22K ohm
R305	06S64995F89	33K ohm
R306	06S64995F89	33K ohm
R307	06S64995F89	33K ohm
R308	06S64995F89	33K ohm
R309	06S64995F29	100 ohm
R310	06S64995F77	10K ohm
R311	06S64996F10	220K ohm
R313	06S64995F85	22K ohm
R315	06S64995F53	1K ohm
R316	06S64995F53	1K ohm
R317	06S64995F53	1K ohm
R318	06S64995F53	1K ohm
R601	06S64996F02	100K ohm
R602	06S64995F77	10K ohm
R603	06S64995F77	10K ohm
R604	06S64995F77	10K ohm
R605	06S64996F02	100K ohm
R606	06S64995F93	47K ohm
R608	06S64996F02	100K ohm
R609	06S64995F69	4.7K ohm
R610	06S64996F02	100K ohm
R612	06S64996F02	100K ohm
R613	06S64996F02	100K ohm
R614	06S64995F77	10K ohm
R615	06S64995F85	22K ohm
R616	06S64996F02	100K ohm

Symbol No.	Part No.	Description
R617	06S64995F77	10K ohm
R618	06S64995F77	10K ohm
R619	06S64995F77	10K ohm
R620	06S64995F77	10K ohm
R621	06S64995F77	10K ohm
R622	06S64996F02	100K ohm
R626	06S64996F02	100K ohm
R627	06S64996F02	100K ohm
R628	06S64996F02	100K ohm
R629	06S64996F02	100K ohm
R630	06S64996F02	100K ohm
R631	06S64996F02	100K ohm
R632	06S64995F85	22K ohm
R633	06S64996F02	100K ohm
R701	06S64995F63	2.7K ohm
R702	06T70072F29	100 ohm 1/4W
R703	06T70072F47	560 ohm 1/4W
R704	06T70072F47	560 ohm 1/4W
R705	06T70072F45	470 ohm 1/4W
R706	06S64995F81	15K ohm
R810	06S64995F85	22K ohm
R811	06S64995F77	10K ohm
R812	06S64996F10	220K ohm
R813	06S64995F61	2.2K ohm
R827	06T70072F65	3.3K ohm 1/4W
R828	06S53330F93	47K ohm 1/8W
R829	06S64995F77	10K ohm
R830	06S64996F02	100K ohm
R831	06S64995F77	10K ohm
R832	06S64995F99	82K ohm
R835	06S64995F77	10K ohm
R836	06S53330F77	10K ohm 1/8W
R837	06S53330F77	10K ohm 1/8W
R838	06S64995F69	4.7K ohm
R839	06T70072F45	470 ohm 1/4W
R841	06S64995F85	22K ohm
R843	06S64995F77	10K ohm
R930	06T70072F13	22 ohm 1/4W
VR001	18T15355W11	Variable, 4.7K ohm
VR002	18T15356W09	Variable, 2.2K ohm
VR003	18T15356W14	Variable, 15K ohm
VR004	18T15356W03	Variable, 220 ohm
VR101	18T15355W19	Variable, 100K ohm
VR102	18T15356W09	Variable, 2.2K ohm
VR103	18T15356W09	Variable, 2.2K ohm

Symbol No.	Part No.	Description
Power P. C. Board		
IC's		
IC210	51T25154W01	BA15532F
IC801	51T92001F01	BA4560F
IC802	51T90890F01	M5236ML
Transistors		
Q204	48T62967F33	CP., DTC343T
Q205	48T62967F33	CP., DTC343T
Q801	48T94606F03	CP., DTC124EU
Q803	48T84366F04	2SB1243
Q804	48T84366F04	2SB1243
Q805	48T94606F03	CP., DTC124EU
Q806	48T94606F56	CP., DTA114EU
Q807	48T83415F03	2SD1858
Q808	48T15289W03	2SD2008Q
Q813	48T63420F01	CP., 2SA1037K
Q814	48T94606F03	CP., DTC124EU
Q815	48T94606F03	CP., DTC124EU
Q816	48T84366F04	2SB1243
Q817	48T84366F04	2SB1243
Q818	48T94606F03	CP., DTC124EU
Q819	48T94606F03	CP., DTC124EU
Q820	48T94606F56	CP., DTA114EU
Diodes		
D804	48T94608F01	CP., DA204U
D805	48T94608F03	CP., DAN202U
D806	48T84052F11	11ES2
ZD801	48T25766W24	Zener, HZS9C1L
ZD802	48T25766W09	Zener, HZS6C3L

Symbol No.	Part No.	Description
Capacitors		
E227	23T25149W09	ELY., 10μF / 16V
E228	23T25149W09	ELY., 10μF / 16V
E229	23T25149W09	ELY., 10μF / 16V
C801	08S65128F76	CP., 0.1μF
E801	23T25057W09	ELY., 4.7μF / 25V
E802	23T25057W05	ELY., 10μF / 16V
E803	23T25057W08	ELY., 47μF / 16V
E804	23T25057W08	ELY., 47μF / 16V
E805	23T25057W14	ELY., 1μF / 50V
E809	23T25057W05	ELY., 10μF / 16V
Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)		
R247	06S64995F77	10K ohm
R248	06S64995F77	10K ohm
R249	06S64995F95	56K ohm
R250	06S64995F95	56K ohm
R251	06S64995F37	220 ohm
R252	06S64995F37	220 ohm
R253	06S64995F85	22K ohm
R254	06S64995F85	22K ohm
R255	06S64995F37	220 ohm
R256	06S64995F37	220 ohm
R801	06S64995F77	10K ohm
R802	06S64995F85	22K ohm
R803	06S64995F85	22K ohm
R804	06S64995F69	4.7K ohm
R806	06S64995F81	15K ohm
R807	06T70072F37	220 ohm 1/4W
R808	06T70072F53	1K ohm 1/4W
R809	06S64995F77	10K ohm
R814	06T70072F04	8.2 ohm 1/4W
R815	06T70072F04	8.2 ohm 1/4W
R816	06S64995F77	10K ohm
R817	06T70072F61	2.2K ohm 1/4W
R818	06S64995F77	10K ohm
R819	06S64995F77	10K ohm
R820	06T70072F61	2.2K ohm 1/4W
R821	06S64995F85	22K ohm
R822	06S53330F77	10K ohm 1/8W
R825	06S64995F77	10K ohm
R826	06S64995F77	10K ohm
R840	06T70072F61	2.2K ohm 1/4W
R842	06S64995F87	27K ohm
R844	06T70072F53	1K ohm 1/4W

Front P. C. Board

IC's

Symbol No.	Part No.	Description
IC901	51T83905F01	LC7582A
IC902	51T35410W02	BA226F

Transistors

Symbol No.	Part No.	Description
Q901	48T62967F33	CP., DTC343T
Q902	48T63461F01	CP., 2SC2411K
Q903	48T62967F33	CP., DTC343T
Q904	48T63461F01	CP., 2SC2411K
Q905	48T94606F05	CP., DTC114TU

Diodes

Symbol No.	Part No.	Description
D901	48T94608F03	CP., DAN202U
D902	48T94608F03	CP., DAN202U

Lamps

Symbol No.	Part No.	Description
PL901	65T25230W02	6.7V-85mA
PL902	65T35507W01	10V-60mA
PL903	65T35507W01	10V-60mA
PL904	65T35507W01	10V-60mA
PL905	65T25230W03	6.7-85mA
PL906	65T35507W02	10V-60mA
PL907	65T35507W02	10V-60mA
PL908	65T35507W02	10V-60mA

Switches

Symbol No.	Part No.	Description
S901	40T10876W12	Tact, SKHLAJ (TUNER)
S902	40T10876W12	Tact, SKHLAJ (DISC)
S903	40T10876W12	Tact, SKHLAJ (6)
S904	40T10876W12	Tact, SKHLAJ (5)
S905	40T10876W12	Tact, SKHLAJ (4)
S906	40T10876W12	Tact, SKHLAJ (DN)
S907	40T10876W12	Tact, SKHLAJ (EJECT)
S908	40T10876W12	Tact, SKHLAJ (TUNE / DISP)
S909	40T10876W12	Tact, SKHLAJ (3 / SCAN)
S910	40T10876W12	Tact, SKHLAJ (2 / REPEAT)
S911	40T10876W12	Tact, SKHLAJ (1 / M.I.X.)
S912	40T10876W12	Tact, SKHLAJ (UP)
S913	40T10876W12	Tact, SKHLAJ (POWER)
S914	40T10876W12	Tact, SKHLAJ (SDK)
S915	40T10876W12	Tact, SKHLAJ (P.SCAN)
S916	40T10876W12	Tact, SKHLAJ (MO / DX)
S917	40T10876W12	Tact, SKHLAJ (D.A.P)
S918	40T10876W12	Tact, SKHLAJ (RESET)
S919	40T35390W01	Rotary, Encoder (MODE)

Capacitors

Symbol No.	Part No.	Description
C901	08S65128F55	CP., 680pF
E901	23S61523F12	ELY., 10μF / 16V
C902	08S65128F69	CP., 0.01μF
C903	08S65128F69	CP., 0.01μF
C904	08S53332F60	CP., 0.15μF
C905	08S53332F60	CP., 0.15μF
C906	08S65128F72	CP., 0.022μF

Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)

Symbol No.	Part No.	Description
R901	06S64995F93	47K ohm
R902	06T70072F53	1K ohm 1/4W
R903	06T70072F53	1K ohm 1/4W
R905	06S64995F61	2.2K ohm
R906	06S64995F65	3.3K ohm

Symbol No.	Part No.	Description
R907	06S64995F71	5.6K ohm
R908	06S64995F79	12K ohm
R909	06S64995F89	33K ohm
R910	06S64995F61	2.2K ohm
R911	06S64995F65	3.3K ohm
R912	06S64995F71	5.6K ohm
R913	06S64995F79	12K ohm
R914	06S64995F89	33K ohm
R915	06S64995F61	2.2K ohm
R916	06S64995F65	3.3K ohm
R917	06S64995F71	5.6K ohm
R918	06S64995F79	12K ohm
R919	06S64995F89	33K ohm
R920	06S64996F18	470K ohm
R921	06S64996F18	470K ohm
R922	06S64995F77	10K ohm
R923	06S64995F69	4.7K ohm
R924	06S64995F69	4.7K ohm
R925	06S64995F77	10K ohm
R926	06T70072F09	15 ohm 1/4W
R927	06T70072F09	15 ohm 1/4W
R928	06T70072F09	15 ohm 1/4W

IN/OUT P. C. Board

Diodes

Symbol No.	Part No.	Description
D810	48C40235G02	10E2
D813	48T94608F03	CP., DAN202U

Resistor

Symbol No.	Part No.	Description
R823	06T70072F53	CP., 1K ohm 1/4W

Load/Photo P. C. Board

IC/Transistors

Symbol No.	Part No.	Description
IC1301	51T15267W01	IC, LB1641
PT1301	48T92913F01	Photo, PT360
PT1302	48T92913F01	Photo, PT360
PT1303	48T92913F01	Photo, PT360

Diode/LED's

Symbol No.	Part No.	Description
ZD1301	48T15440W12	Zener, UTZJ6.2C
LD1301	48T16057W02	LED, AN501-B1 (RED)
LD1302	48T16057W02	LED, AN501-B1 (RED)
LD1303	48T16057W02	LED, AN501-B1 (RED)

Capacitors

Symbol No.	Part No.	Description
C1301	08S65128F69	CP., 0.01 µF
C1302	08S65128F69	CP., 0.01 µF

Resistors (All resistors are chip 1/8W ± 5% unless otherwise noted.)

Symbol No.	Part No.	Description
R1301	06S53330F43	390 ohm
R1302	06S53330F47	560 ohm
R1304	06S53331F02	100K ohm
R1305	06S53331F02	100K ohm
R1306	06S53331F02	100K ohm
R1308	06T70072F01	4.7 ohm 1/4W
R1309	06T70072F01	4.7 ohm 1/4W
R1310	06S53330F47	560 ohm
R1311	06S53331F02	100K ohm

Symbol No.	Part No.	Description
		Miscellaneous
BA601	60T91060F01	Battery Lithium, CR2032
ET304	01T25803W08	QRB, Socket
LCD901	65T35391W01	LCD Display
HD1201	88T15309W01	Pick Up Unit
M1301	01V13100W97	Assy., Loading Motor (6V-210mA)
M1302	59T91005F01	Motor, Spindle (2V-90mA)
M1303	59T52973F03	Motor, Sled (6V-210mA)
S1301	40T71025F03	Switch, Detector (CAM END)
S1302	40T71025F01	Switch, Detector (LIMIT)
PT1304	48T92913F01	Transistor, Photo PT360
LD1304	48T16057W02	LED, AN501-B1 (RED)
SD1301	01A90816F01	Assy., Clamp Solenoid

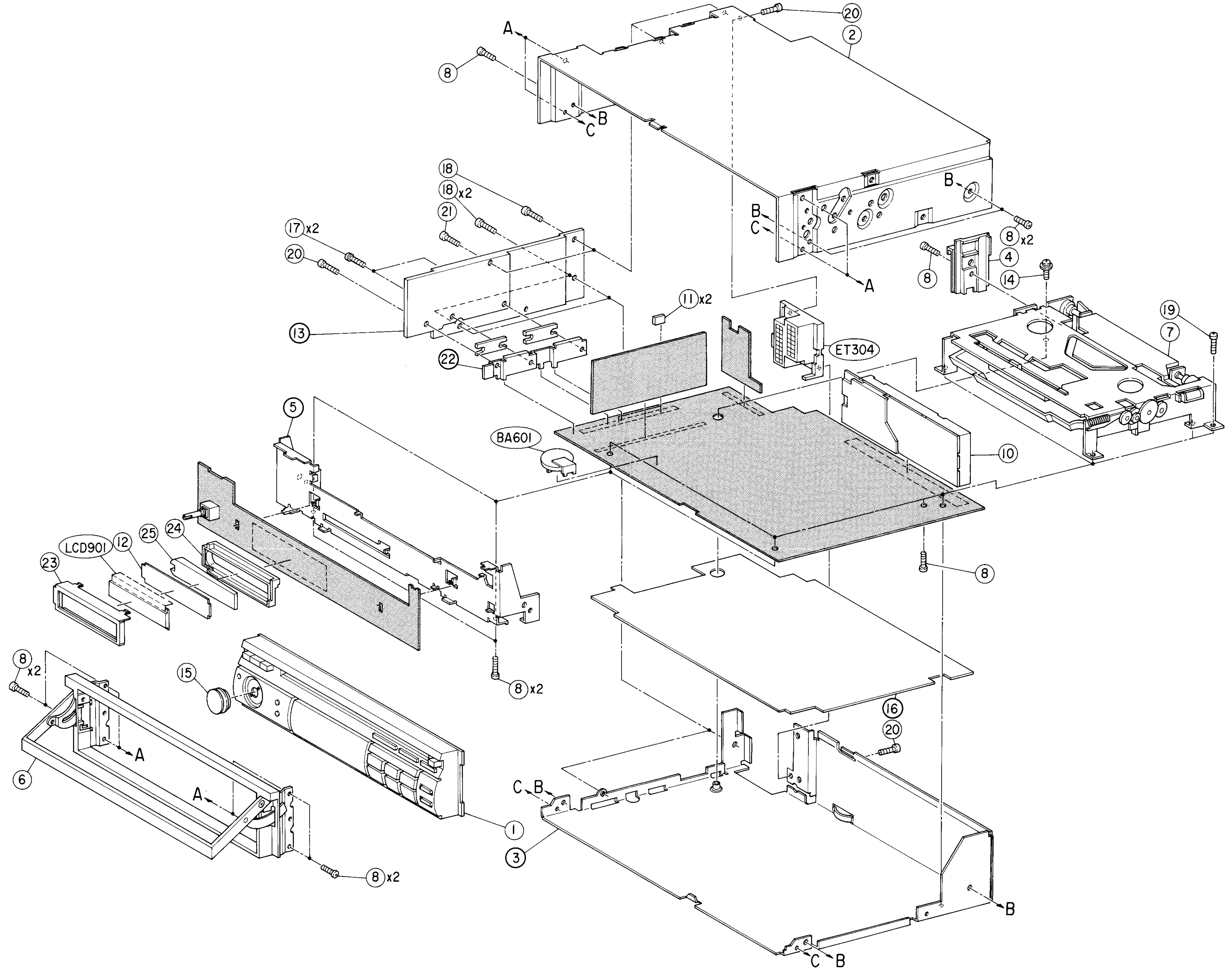
Symbol No.	Part No.	Description

Cabinet Assembly Parts List

Notes : ● The parts without parts list are not supplied.
● Parts marked * will need a long delivery time, or may be not supplied in some cases.

Symbol No.	Index	Part No.	Description
1	4-D	13D31068W01	Assy., Nosepiece
2	1-E	15C31091W01	Cover, Top
4	2-F	15B31095W01	Cover, P.C.Board
6	4-A	07C21606W01	Assy., Bracket Handle
*7	2-G	81D30153W01	CD Mechanism DP24A210
8		03S44205G34	Screw, Pan (M2.6 x 5)
10	3-F	77C30794W01	FM/MW/LW Tuner Unit, MB4R901B (FE001)
11	2-D	75S12196W50	Cushion, Rubber
12	3-B	26A31090W01	Reflector, Sheet
14	2-F	03D40121T43	Screw, W/Double Washer (M2.6 x 6)
15	4-B	36A31085W01	Knob, Rotary
17	2-C	03D40014G74	Screw, W/Washer (M2.6 x 16)
18		03S44205G76	Screw, Pan (M2.6 x 8)
19	2-G	03S44205G29	Screw, Pan (M2.6 x 6)
20		03S52360F78	Screw, Pan (M2.6 x 8)
21	2-C	03S38013W04	Screw, Pan (M2.6 x 12)
23	3-A	26A31087W01	Shield, LCD
24	3-B	15B31088W01	Cover, LCD
25	3-B	61A31089W01	Lens, LCD

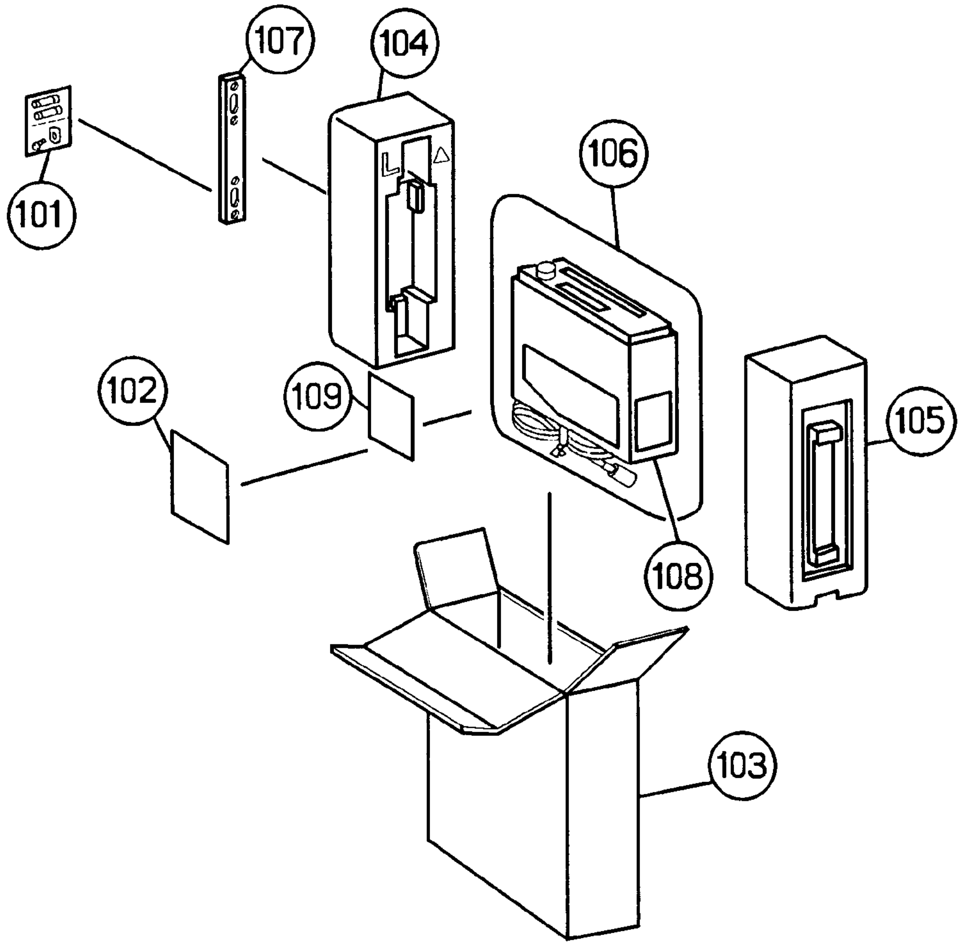
Exploded View (Cabinet)


⑳
②
A
⑧
B
C
⑱
⑱x2
㉑
⑰x2
⑳
⑬
㉒
B
C
B
⑧x2
④
⑭
⑧
A
⑪x2
ET304
⑲
⑦
⑤
BA601
⑩
LCD901
⑫
㉕
㉔
㉓
⑧
⑧x2
⑮
⑧x2
⑯
⑳
⑥
A
A
①
C
B
③
B
C
B
⑧x2
1
2
3
4
5
A
B
C
D
E
F
G
H

Packing Assembly Parts List

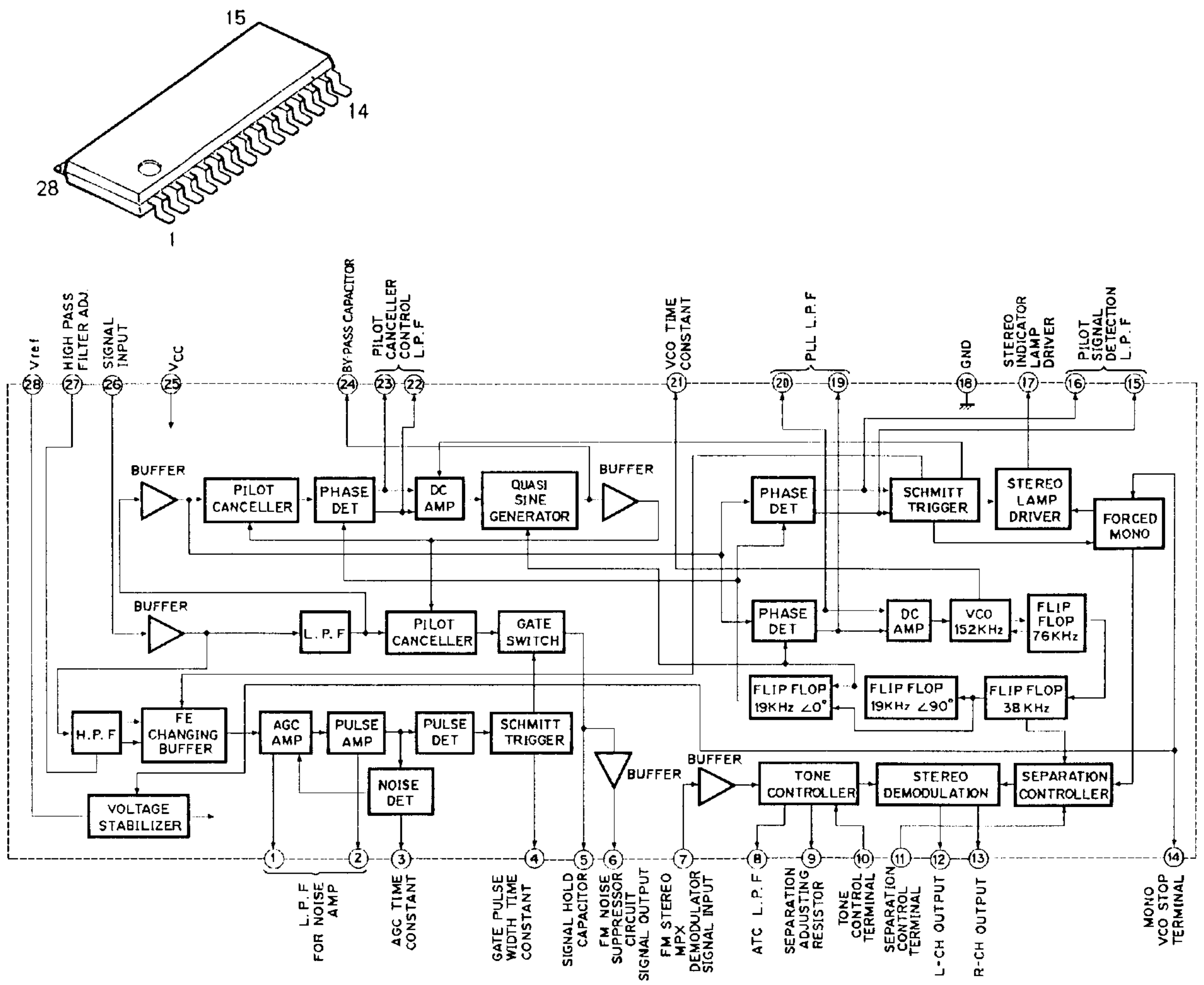
Symbol No.	Part No.	Description
101	01V34100W03	Assy., Kit
101-1	02B47353F01	Nut, Hex. (M5)
101-2	03S63857F59	Screw, Tapping (4×15)
101-3	03A40155F05	Bolt, Hex. (M5×14)
101-4	03A40155F01	Bolt, Hex. (M5×8)
101-5	03A48414F04	Screw, Bind (M2.6×18)
101-6	07A30081W01	Bracket, QRB (A)
101-7	07A30082W01	Bracket, QRB (B)
101-8	03S44205G34	Screw, Pan (M2.6×5)
102	68P22493W48	Owner's, Manual
103	56S22119W90	Carton, Packing (Individual)
104	56D22122W01	Tray, Packing (L)
105	56D22122W02	Tray, Packing (R)
106	56C40990T36	Sack, Polyethylene
107	07B64552F01	Bracket, Strap Receiver
108-1	15D21598W01	Case, Mother
108-2	03A28015W01	Screw, Special (M2.6×6.7)
108-3	01T25804W07	Assy., QRB Connector
109	01T96095F08	Assy., Connector 4P

Packing Method View

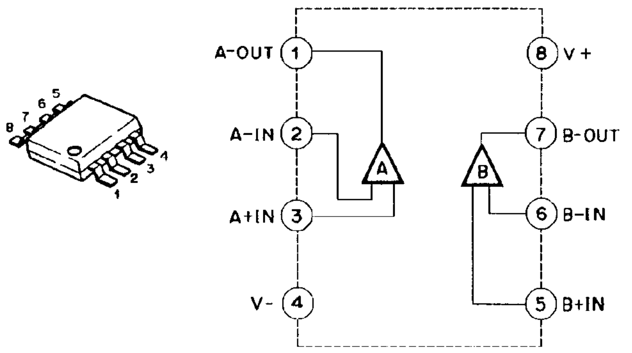

107
104
106
101
L
102
109
105
108
103

Semi-Conductor Lead Identifications

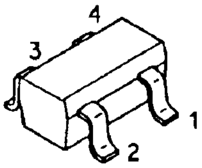
AN7465S : IC001

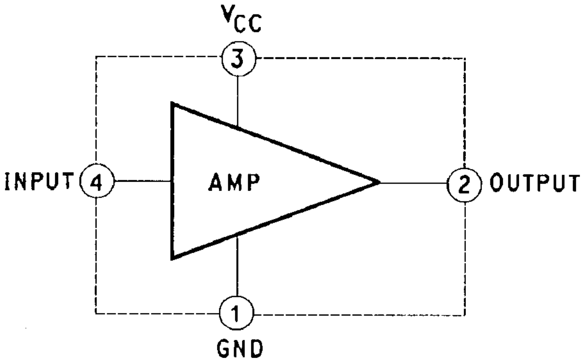

15
14
28
1
Vref
HIGH PASS FILTER ADJ
SIGNAL INPUT
Vcc
BY PASS CAPACITOR
PILOT CANCELLER CONTROL
L. P. F
VCO TIME CONSTANT
PLL L. P. F
GND
STEREO INDICATOR LAMP DRIVER
PILOT SIGNAL DETECTION L. P. F
BUFFER
PILOT CANCELLER
PHASE DET
DC AMP
QUASI SINE GENERATOR
BUFFER
PHASE DET
SCHMITT TRIGGER
STEREO LAMP DRIVER
FORCED MONO
BUFFER
L. P. F
PILOT CANCELLER
GATE SWITCH
PHASE DET
DC AMP
VCO 152KHz
FLIP FLOP 76KHz
FLIP FLOP 19KHz ∠0°
FLIP FLOP 19KHz ∠90°
FLIP FLOP 38KHz
H. P. F
FE CHANGING BUFFER
AGC AMP
PULSE AMP
PULSE DET
SCHMITT TRIGGER
BUFFER
BUFFER
NOISE DET
TONE CONTROLLER
STEREO DEMODULATION
SEPARATION CONTROLLER
VOLTAGE STABILIZER
L. P. F FOR NOISE AMP
AGC TIME CONSTANT
GATE PULSE WIDTH TIME CONSTANT
SIGNAL HOLD CAPACITOR
FM NOISE SUPPRESSOR CIRCUIT SIGNAL OUTPUT
FM STEREO MPX DEMODULATOR SIGNAL INPUT
ATC L. P. F
SEPARATION ADJUSTING RESISTOR
TONE CONTROL TERMINAL
SEPARATION CONTROL TERMINAL
L-CH OUTPUT
R-CH OUTPUT
MONO VCO STOP TERMINAL

NJM2904M : IC002

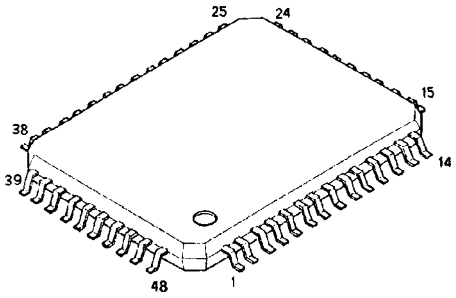

8 7 6 5
1 2 3 4
A-OUT 1
A-IN 2
A+IN 3
V- 4
8 V+
7 B-OUT
6 B-IN
5 B+IN
A
B

μPC1675G : IC003



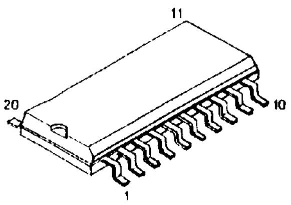

V_{CC}
3
INPUT 4
AMP
2 OUTPUT
1
GND

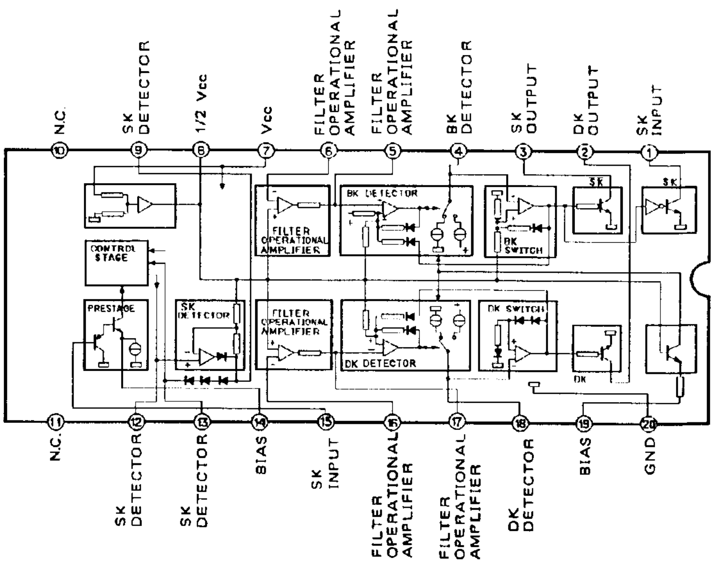
35246W01 : IC004


25
24
15
38
14
39
48
1

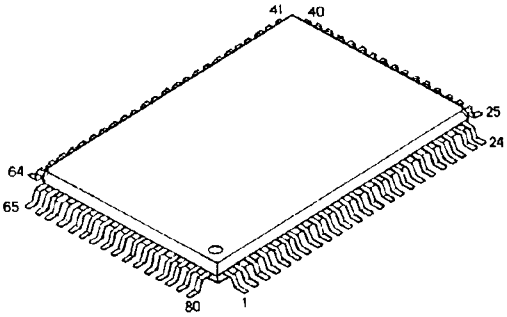
PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O
1	E01	O	23	NC	—	45	$\overline{ST}$	I
2	NC	—	24	TUN-ON	O	46	SD	I
3	V_{DD}	—	25	B3	O	47	S.M	I
4	NC	—	26	B2	O	48	CI	I
5	VCOH	I	27	B1	O			
6	CE	I	28	NC	—			
7	V_{DD}	—	29	NC	—			
8	NC	—	30	NC	—			
9	MONO	O	31	NC	—			
10	NC	—	32	NC	—			
11	NC	—	33	NC	—			
12	AM IF	I	34	NC	—			
13	FM IF	I	35	NC	—			
14	CMD	I	36	NC	—			
15	$\overline{SCK}$	O	37	NC	—			
16	STS	O	38	NC	—			
17	START	O	39	NC	—			
18	$\overline{MUTE}$	O	40	NC	—			
19	LO	O	41	NC	—			
20	XO	O	42	GND	—			
21	XI	I	43	DK	I			
22	GND	—	44	$\overline{SK}$	I			

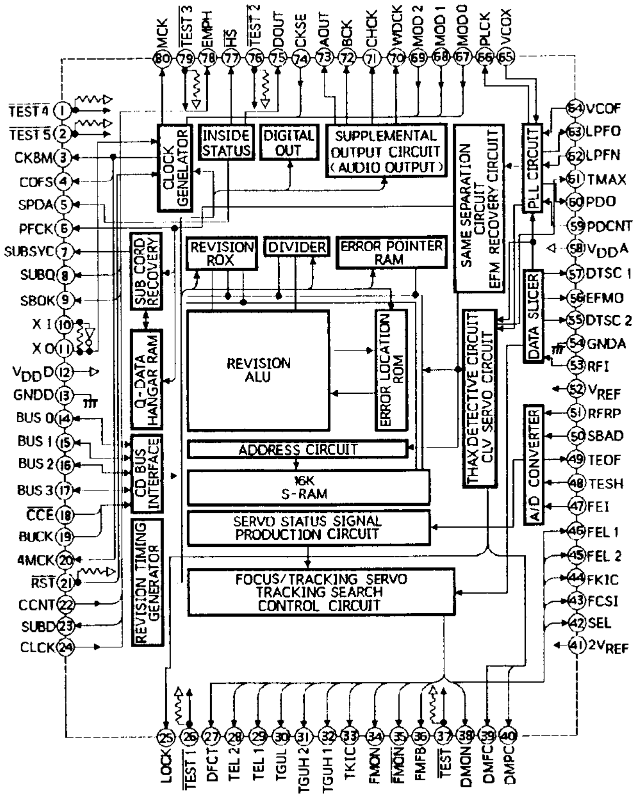
TDA1579T : IC005



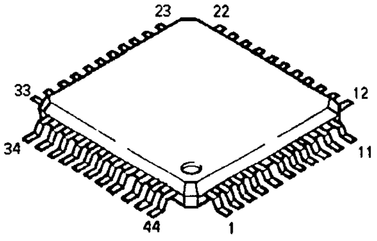

N.C.
SK DETECTOR
1/2 Vcc
Vcc
FILTER OPERATIONAL AMPLIFIER
FILTER OPERATIONAL AMPLIFIER
BK DETECTOR
SK OUTPUT
DK OUTPUT
SK INPUT
10
9
8
7
6
5
4
3
2
1
CONTROL STAGE
PRESTAGE
SK DETECTOR
FILTER OPERATIONAL AMPLIFIER
BK DETECTOR
FILTER OPERATIONAL AMPLIFIER
DK DETECTOR
SK
BK SWITCH
DK SWITCH
SK
DK
11
12
13
14
15
16
17
18
19
20
N.C.
SK DETECTOR
SK DETECTOR
BIAS
SK INPUT
FILTER OPERATIONAL AMPLIFIER
FILTER OPERATIONAL AMPLIFIER
DK DETECTOR
BIAS
GND

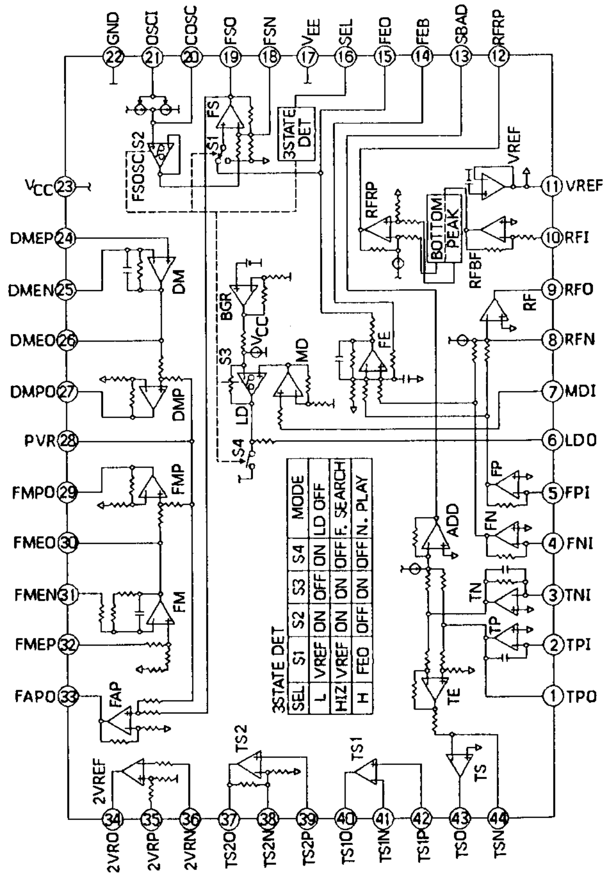
TC9236F : IC101


41
40
25
24
64
65
80
1


MCK
TEST 3
EMPH
IH5
TEST 2
DOUT
ICKSE
AOUT
BCK
CHCK
WDCK
MOD 2
MOD 1
MOD 0
PLCK
VCOX
TEST 4
TEST 5
CK8M
COFS
SPDA
PFCK
SUBSYC
SUBQ
SBOK
X I
X O
VDDD
GNDD
BUS 0
BUS 1
BUS 2
BUS 3
CCE
BUCK
4MCK
RST
CCNT
SUBD
CLCK
VCOF
LPFO
LPFN
TMAX
PDO
PDCNT
VDDA
DTSC 1
EFMO
DTSC 2
GNDA
RFI
VREF
RFRP
SBAD
TEOF
TESH
FEI
FEL 1
FEL 2
FKIC
FCSI
SEL
2VREF
LOCK
TEST 1
DFCT
TEL 2
TEL 1
TGUL
TGUH 2
TGUH 1
TKIC
FMON
FMON
FMFB
TEST
DMON
DMFC
DMPC
CLOCK GENERATOR
INSIDE STATUS
DIGITAL OUT
SUPPLEMENTAL OUTPUT CIRCUIT (AUDIO OUTPUT)
SAME SEPARATION CIRCUIT EFM RECOVERY CIRCUIT
PLL CIRCUIT
SUB CORD RECOVERY
REVISION ROX
DIVIDER
ERROR POINTER RAM
DATA SLICER
Q-DATA HANGAR RAM
REVISION ALU
ERROR LOCATION ROM
THAX DETECTIVE CIRCUIT CLV SERVO CIRCUIT
ADDRESS CIRCUIT
16K S-RAM
A/D CONVERTER
CD BUS INTERFACE
SERVO STATUS SIGNAL PRODUCTION CIRCUIT
REVISION TIMING GENERATOR
FOCUS/TRACKING SERVO TRACKING SEARCH CONTROL CIRCUIT

TA8191F : IC102

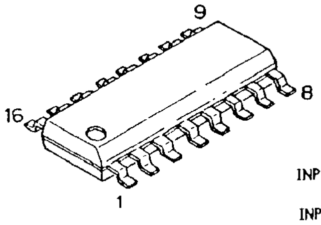

23
22
33
12
34
11
44
1

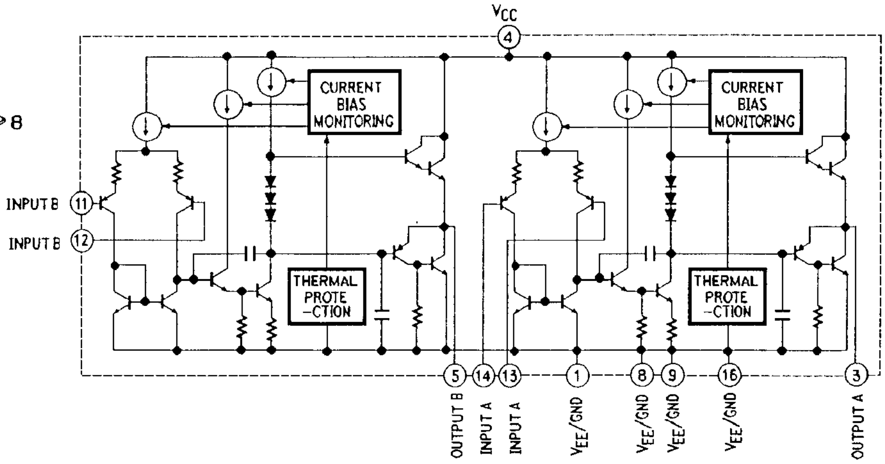

GND
OSCI
COSC
FSO
FSN
VEE
SEL
FED
FEB
SBAD
RFRP
VCC
DMEP
DMEN
DMEO
DMPO
PVR
FMPO
FMEO
FMEN
FMEP
FAPO
VREF
RFI
RFO
RFN
MDI
LDO
FPI
FNI
TNI
TPI
TPO
2VRO
2VRP
2VRN
TS2O
TS2N
TS2P
TS1O
TS1N
TS1P
TSO
TSN
FSOSC
S2
S1
FS
3STATE DET
VREF
RFRP
BOTTOM PEAK
RFBF
RF
DM
BGR
VCC
S3
MD
FE
LD
S4
DMP
FP
FN
FMP
ADD
TN
TP
FM
TE
FAP
2VREF
TS2
TS1
TS

3STATE DET

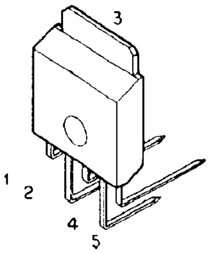
SEL	S1	S2	S3	S4	MODE
L	VREF	ON	OFF	ON	LD OFF
HIZ	VREF	ON	ON	OFF	F. SEARCH
H	FEO	OFF	ON	OFF	N. PLAY

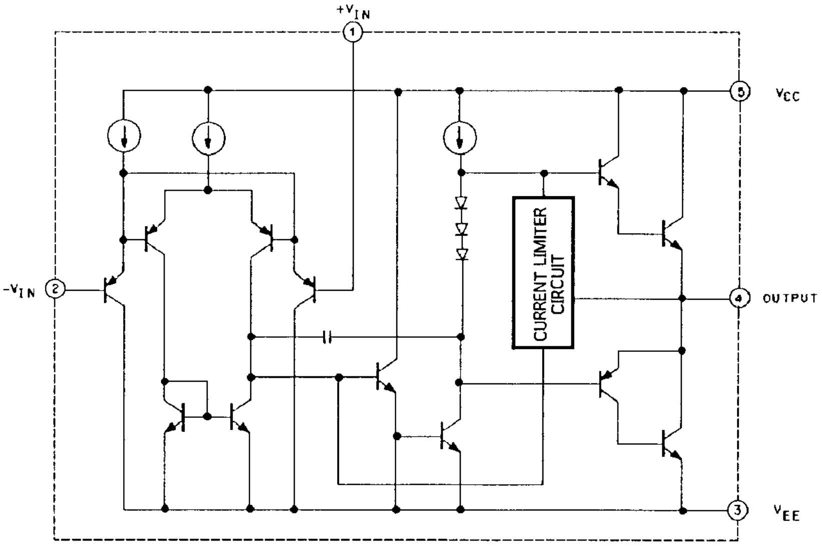
TCA0372M : IC103, 104



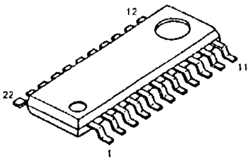

VCC
4
CURRENT BIAS MONITORING
CURRENT BIAS MONITORING
THERMAL PROTE -CTION
THERMAL PROTE -CTION
INPUT B 11
INPUT B 12
5 OUTPUT B
14 INPUT A
13 INPUT A
1 VEE/GND
8 VEE/GND
9 VEE/GND
16 VEE/GND
3 OUTPUT A

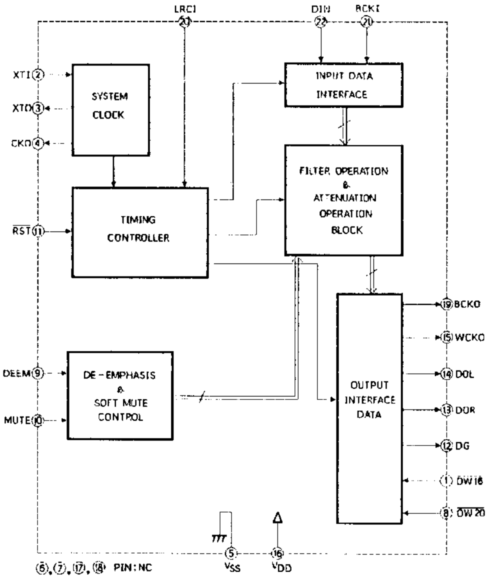
LA6501-TL : IC105



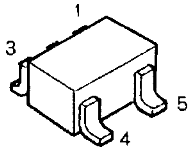

+VIN
1
-VIN 2
5 VCC
4 OUTPUT
3 VEE
CURRENT LIMITER CIRCUIT

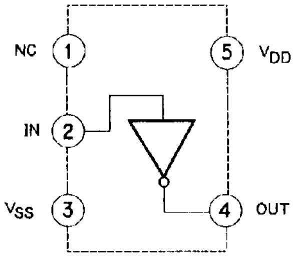
SM5840CS : IC106



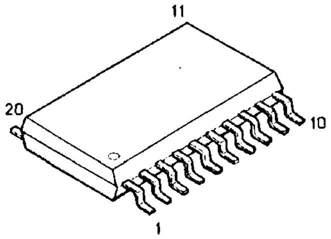

LRCI 20
DIN 22
BCKI 21
XTI 2
XTO 3
CKO 4
RST 11
DEEM 9
MUTE 10
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION & ATTENUATION OPERATION BLOCK
DE-EMPHASIS & SOFT MUTE CONTROL
OUTPUT INTERFACE DATA
19 BCKO
15 WCKO
14 DOL
13 DOR
12 DG
1 DW16
8 DW20
5 VSS
16 VDD
6, 7, 17, 18 PIN : NC

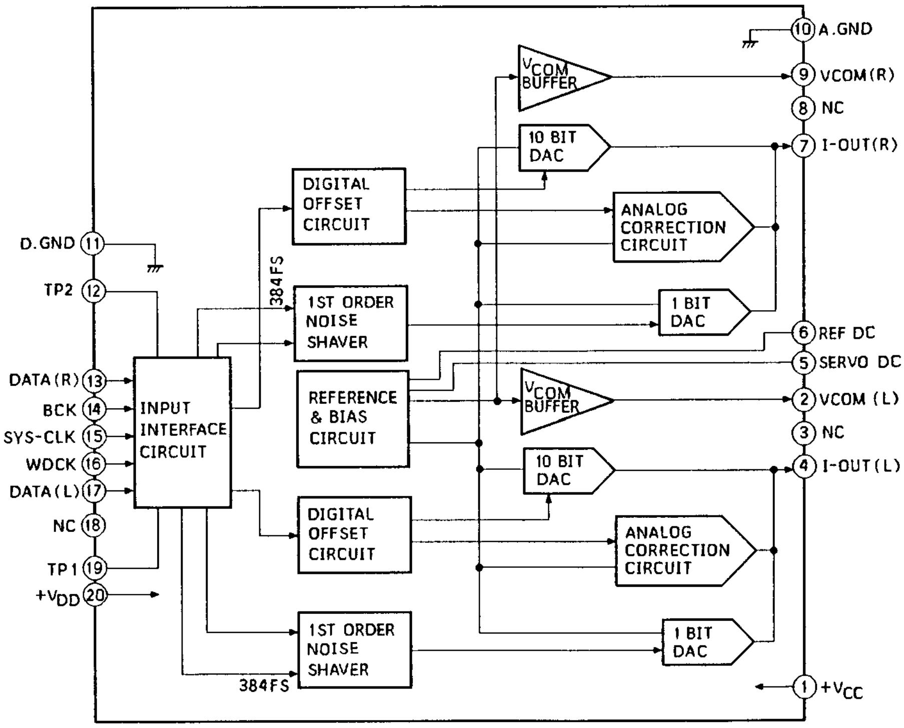
TC7SU04F : IC109




NC 1
IN 2
VSS 3
5 VDD
4 OUT

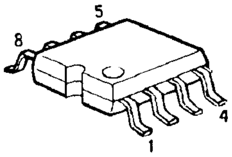
PCM67U : IC201

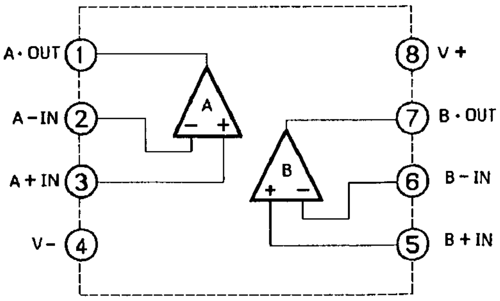



10 A.GND
9 VCOM(R)
8 NC
7 I-OUT(R)
6 REF DC
5 SERVO DC
2 VCOM (L)
3 NC
4 I-OUT(L)
1 +VCC
D.GND 11
TP2 12
DATA(R) 13
BCK 14
SYS-CLK 15
WDCK 16
DATA(L) 17
NC 18
TP1 19
+VDD 20
VCOM BUFFER
10 BIT DAC
DIGITAL OFFSET CIRCUIT
ANALOG CORRECTION CIRCUIT
1ST ORDER NOISE SHAVER
1 BIT DAC
REFERENCE & BIAS CIRCUIT
INPUT INTERFACE CIRCUIT
384FS
VCOM BUFFER
10 BIT DAC
DIGITAL OFFSET CIRCUIT
ANALOG CORRECTION CIRCUIT
1ST ORDER NOISE SHAVER
1 BIT DAC
384FS

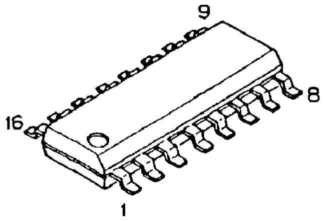
BA4560F : IC202, 203, 213, 214, 801

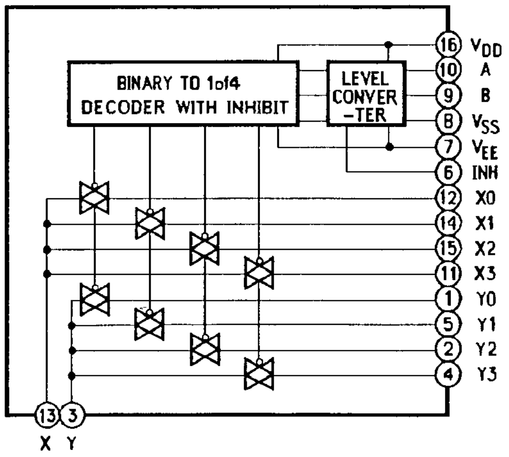
BA15532F : IC205, 210



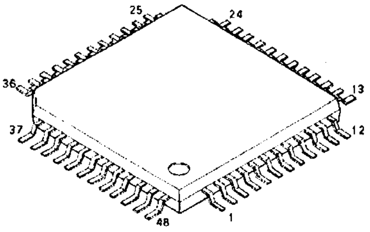

A・OUT 1
A－IN 2
A＋IN 3
V－ 4
8 V＋
7 B・OUT
6 B－IN
5 B＋IN
A
B
−
+
+
−

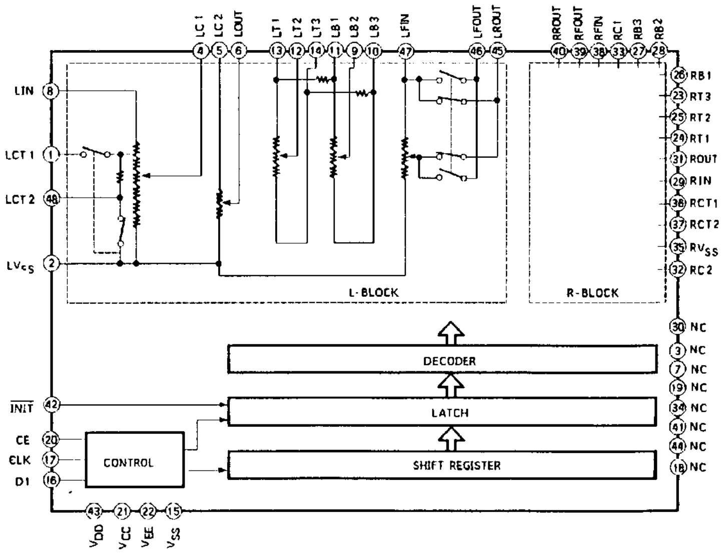
BU4052BF : IC204



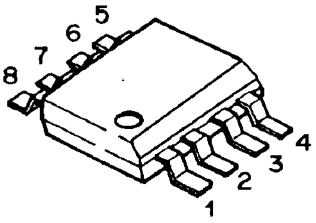

BINARY TO 1of4 DECODER WITH INHIBIT
LEVEL CONVER -TER
16 VDD
10 A
9 B
8 VSS
7 VEE
6 INH
12 X0
14 X1
15 X2
11 X3
1 Y0
5 Y1
2 Y2
4 Y3
13 X
3 Y

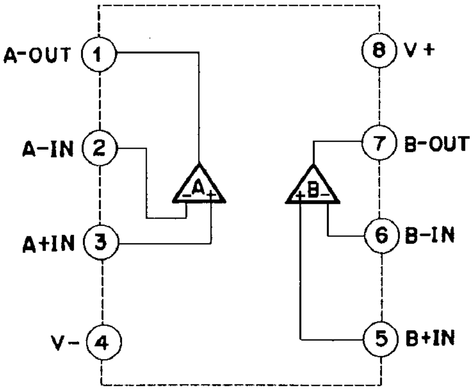
LC7537AN : IC206


25
24
36
13
37
12
48
1

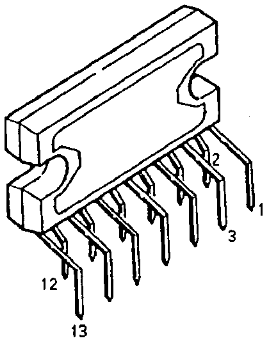

LC1 4
LC2 5
LOUT 6
LT1 13
LT2 12
LT3 14
LB1 11
LB2 9
LB3 10
LFIN 47
LFOUT 46
LROUT 45
RROUT 40
RFOUT 39
RFIN 38
RC1 33
RB3 27
RB2 28
LIN 8
LCT1 1
LCT2 48
LVSS 2
L-BLOCK
R-BLOCK
26 RB1
23 RT3
25 RT2
24 RT1
31 ROUT
29 RIN
36 RCT1
37 RCT2
35 RVSS
32 RC2
30 NC
3 NC
7 NC
19 NC
34 NC
41 NC
44 NC
18 NC
DECODER
LATCH
SHIFT REGISTER
CONTROL
INIT 42
CE 20
CLK 17
D1 16
43 VDD
21 VCC
22 VEE
15 VSS

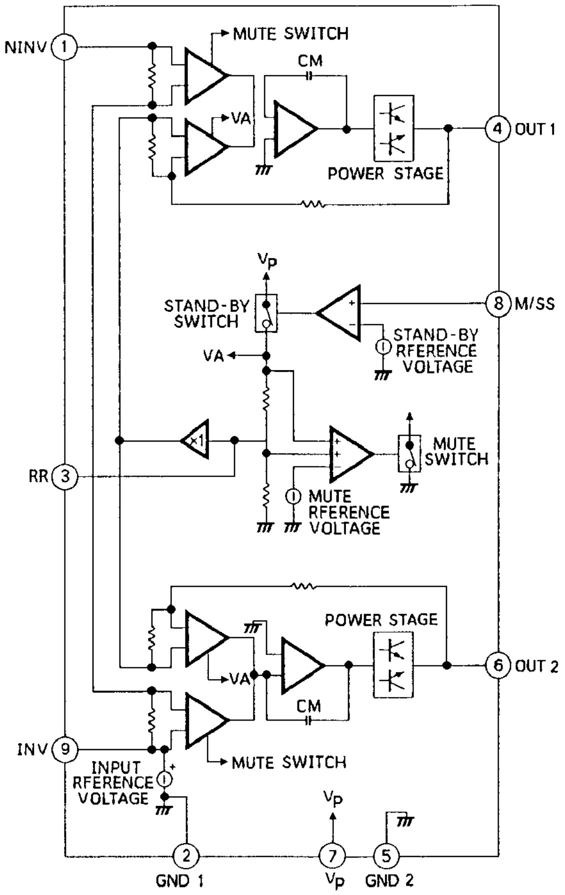
NJM4580E : IC207~209



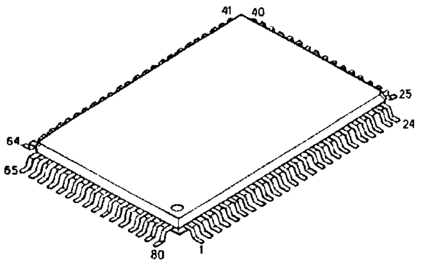

A-OUT 1
A-IN 2
A+IN 3
V- 4
8 V+
7 B-OUT
6 B-IN
5 B+IN
A
B

TDA1519A : IC301, 302




NINV 1
MUTE SWITCH
CM
VA
4 OUT 1
POWER STAGE
Vp
STAND-BY SWITCH
8 M/SS
STAND-BY RFERENCE VOLTAGE
VA
×1
MUTE SWITCH
RR 3
MUTE RFERENCE VOLTAGE
POWER STAGE
6 OUT 2
VA
CM
INV 9
MUTE SWITCH
INPUT RFERENCE VOLTAGE
Vp
2 GND 1
7 Vp
5 GND 2

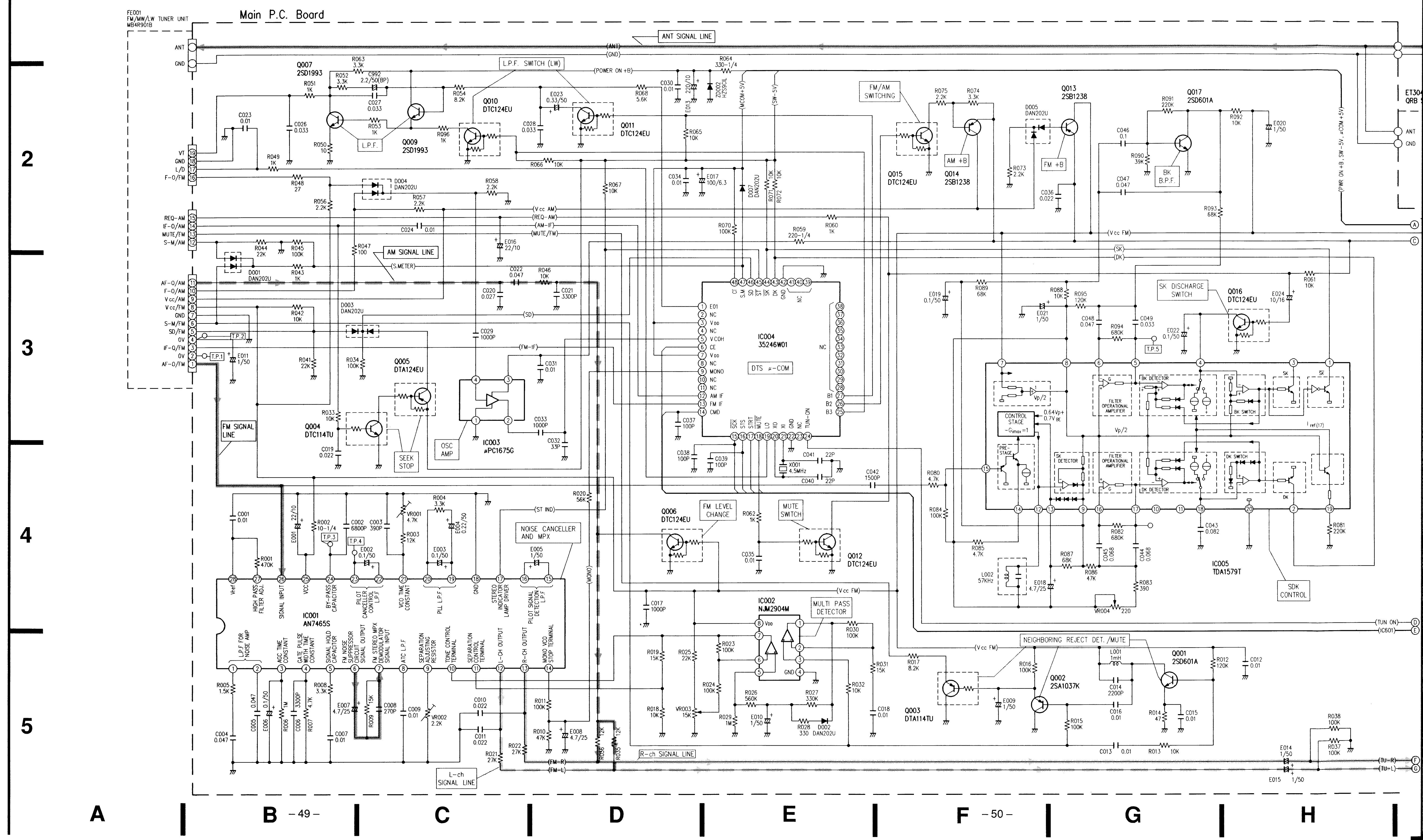
16449W15 : IC601

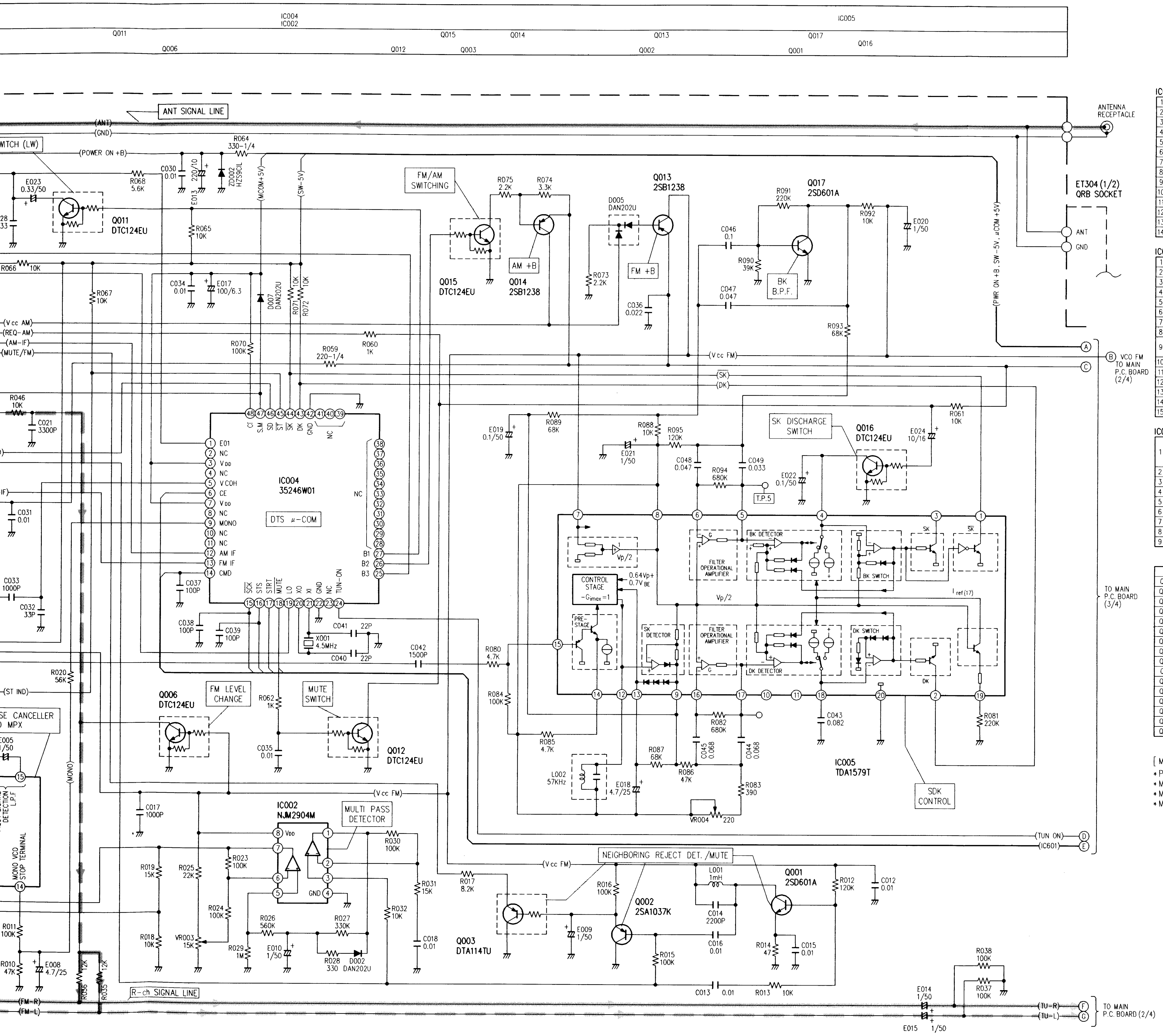

41
40
25
24
64
65
80
1

PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O
1	GND	–	23	EJECT - END	I	45	ALARM	O	67	O - INT	O
2	AVREF	I	24	DISC - IN	I	46	DTS - START	I	68	O - REM	O
3	V_{DD}	–	25	LOAD - BWD	O	47	A - HOLD	I	69	POWER - ON	O
4	V_{DD}	–	26	LOAD - FWD	O	48	B - HOLD	I	70	EV - INH	O
5	$\overline{\text{V-OUT}}$	O	27	LOAD - CONT	O	49	DTS - MUTE	I	71	EV - DATA	O
6	GND	–	28	V - CONT	O	50	STS	I	72	EV - CLOCK	O
7	GND	–	29	$\overline{\text{PULL UP SW}}$	O	51	CMD	O	73	GND	–
8	GND	–	30	F - CONT	O	52	CLOCK	I	74	ENCOD - DOWN	I
9	LCD - INH	O	31	FM LEVEL	O	53	GND	–	75	ENCOD - UP	I
10	LCD - DATA	O	32	$\overline{\text{CD-RESET}}$	O	54	GND	–	76	GND	–
11	LCD - CLOCK	O	33	GND	–	55	GND	–	77	T - SENSE	I
12	LCD - CE	O	34	BUS3	I/O	56	NC	–	78	KEY - A/D0	I
13	NC	–	35	BUS2	I/O	57	GND	–	79	KEY - A/D1	I
14	NC	–	36	BUS1	I/O	58	X1	I	80	KEY - A/D2	I
15	AMBER	O	37	BUS0	I/O	59	X2	O			
16	W. DOG OUT	O	38	CCE	O	60	$\overline{\text{RESET}}$	I			
17	AREA 1	I	39	BUCK	O	61	GND	–			
18	AREA 2	I	40	LOCK	O	62	$\overline{\text{TP}}$ (GND)	–			
19	AREA 3	I	41	$\overline{\text{CAM-END}}$	O	63	$\overline{\text{IN-PAUSE}}$	I			
20	$\overline{\text{LIMIT-SW}}$	I	42	SOLENOID	O	64	$\overline{\text{IN-INT}}$	I			
21	B - END	I	43	$\overline{\text{A}}$ - MUTE	O	65	$\overline{\text{SDK-TONE}}$	O			
22	RELOAD	I	44	$\overline{\text{CD}}$ / TUNER	O	66	DTS - CE	O			

Schematic Diagram (1/4)

IC	IC001	IC003	IC004 IC002	IC005
Transistor (Q)	Q007 Q004 Q009 Q005 Q010	Q011 Q006	Q012 Q015 Q003 Q014	Q013 Q002 Q017 Q001 Q016


1
2
3
4
5
A
B
C
D
E
F
G
H
FE001 FM/MW/LW TUNER UNIT MB4R901B
Main P.C. Board
ANT SIGNAL LINE
L.P.F. SWITCH (LW)
FM/AM SWITCHING
AM SIGNAL LINE
SK DISCHARGE SWITCH
FM SIGNAL LINE
OSC AMP
SEEK STOP
IC003 μPC1675G
IC004 35246W01
DTS μ-COM
IC005 TDA1579T
FM LEVEL CHANGE
MUTE SWITCH
NOISE CANCELLER AND MPX
IC001 AN7465S
IC002 NJM2904M
MULTI PASS DETECTOR
NEIGHBORING REJECT DET./MUTE
SDK CONTROL
R-ch SIGNAL LINE
L-ch SIGNAL LINE
Q007 2SD1993
Q009 2SD1993
Q010 DTC124EU
Q011 DTC124EU
Q005 DTA124EU
Q004 DTC114TU
Q015 DTC124EU
Q014 2SB1238
Q013 2SB1238
Q017 2SD601A
Q016 DTC124EU
Q006 DTC124EU
Q012 DTC124EU
Q003 DTA114TU
Q002 2SA1037K
Q001 2SD601A
ET304 QRB


IC004
IC002
IC005
Q011
Q006
Q015
Q014
Q012
Q003
Q013
Q002
Q017
Q001
Q016
ANT SIGNAL LINE
(ANT)
(GND)
ANTENNA RECEPTACLE
ITCH (LW)
(POWER ON +B)
E023 0.33/50
Q011 DTC124EU
R068 5.6K
C030 0.01
E013 220/10
R064 330-1/4
ZD002 HZ9CL
(MCOM+5V)
(SW-5V)
R065 10K
FM/AM SWITCHING
R075 2.2K
R074 3.3K
Q015 DTC124EU
Q014 2SB1238
AM +B
D005 DAN202U
R073 2.2K
Q013 2SB1238
FM +B
C036 0.022
C046 0.1
R091 220K
Q017 2SD601A
R090 39K
BK B.P.F.
C047 0.047
R092 10K
E020 1/50
(PWR ON +B, SW-5V, μCOM +5V)
ET304 (1/2) QRB SOCKET
ANT
GND
R066 10K
C034 0.01
E017 100/6.3
D007 DAN202U
R071 10K
R072 10K
R067 10K
(Vcc AM)
(REQ-AM)
(AM-IF)
(MUTE/FM)
R070 100K
R059 220-1/4
R060 1K
R093 68K
(Vcc FM)
(SK)
(DK)
Ⓐ
Ⓑ VCO FM TO MAIN P.C. BOARD (2/4)
Ⓒ
R046 10K
C021 3300P
IC004 35246W01
DTS μ-COM
E01
NC
VDD
VCOH
CE
MONO
AM IF
FM IF
CMD
B1
B2
B3
SCK
STS
STRT
MUTE
LO
XO
XI
GND
TUN-ON
C031 0.01
C033 1000P
C032 33P
C037 100P
C038 100P
C039 100P
C041 22P
X001 4.5MHz
C040 22P
C042 1500P
E019 0.1/50
R089 68K
R088 10K
E021 1/50
R095 120K
C048 0.047
R094 680K
C049 0.033
T.P.5
E022 0.1/50
SK DISCHARGE SWITCH
Q016 DTC124EU
E024 10/16
R061 10K
Vp/2
CONTROL STAGE
-Gvmax = 1
0.64Vp+ 0.7VBE
PRE-STAGE
SK DETECTOR
FILTER OPERATIONAL AMPLIFIER
BK DETECTOR
BK SWITCH
DK SWITCH
DK DETECTOR
SK
DK
Iref(17)
TO MAIN P.C. BOARD (3/4)
R080 4.7K
R084 100K
R085 4.7K
R020 56K
(ST IND)
SE CANCELLER MPX
Q006 DTC124EU
FM LEVEL CHANGE
MUTE SWITCH
R062 1K
Q012 DTC124EU
C035 0.01
(MONO)
C043 0.082
R082 680K
C045 0.068
C044 0.068
R081 220K
IC005 TDA1579T
SDK CONTROL
L002 57KHz
E018 4.7/25
R087 68K
R086 47K
R083 390
VR004 220
C017 1000P
IC002 NJM2904M
MULTI PASS DETECTOR
R030 100K
R023 100K
R025 22K
R019 15K
R024 100K
R018 10K
VR003 15K
R026 560K
R027 330K
R029 1M
E010 1/50
R028 330
D002 DAN202U
R031 15K
R032 10K
C018 0.01
R017 8.2K
Q003 DTA114TU
NEIGHBORING REJECT DET./MUTE
R016 100K
E009 1/50
Q002 2SA1037K
L001 1mH
C014 2200P
C016 0.01
R015 100K
Q001 2SD601A
R012 120K
C012 0.01
R014 47
C015 0.01
(TUN ON)
(IC601)
Ⓓ
Ⓔ
MONO VCO STOP TERMINAL
DETECTION L.P.F
R011 100K
R010 47K
E008 4.7/25
R036 12K
R035 12K
R-ch SIGNAL LINE
(FM-R)
(FM-L)
C013 0.01
R013 10K
R038 100K
R037 100K
E014 1/50
E015 1/50
(TU-R)
(TU-L)
Ⓕ
Ⓖ
TO MAIN P.C. BOARD (2/4)

IC001

1	2.3V	15	2.3V
2	1.7V	16	2.3V
3	1.3V	17	4.8V
4	0V	18	0V
5	2.4V	19	2.4V
6	1.3V	20	2.4V
7	1.1V	21	1.3V
8	0V	22	2.1V
9	0.25V	23	2.1V
10	4.5V	24	2.4V
11	1.7V	25	8.8V
12	2.8V	26	2.3V
13	2.8V	27	1.6V
14	0V	28	2.4V

IC002

1	0.1V
2	0.2V
3	0.2V
4	0V
5	0.2V
6	0.8V
7	0V
8	8.6V

IC003

1	3.9V
2	0V
3	1.1V
4	4.8V

IC004

1	1.2V	16	PS	30	NC	46	4.5V
2	1.4V	17	PS	31	NC	47	4.6V
3	5.1V	18	5.1V	32	NC	48	4.6V
4	1.7V	19	0V	33	NC		
5	3.2V	20	PS	34	NC		
6	5.1V	21	PS	35	NC		
7	0V	22	0V	36	NC		
8	0V	23	0V	37	NC		
9	0V/5.1V	24	5.1V/0V	38	NC		
	ST/MONO		TUNER ON/OFF	39	NC		
10	0V			40	NC		
11	0V	25	4.7V	41	NC		
12	0V	26	0V	42	0V		
13	0V	27	1.1V	43	0V		
14	PS	28	NC	44	4.2V		
15	PS	29	NC	45	4.2V		

IC005

1	4.2V/0V	10	0V
	SDK ON/OFF	11	0.4V
		12	4.4V
2	0.1V	13	3.8V
3	0V	14	4.2V
4	0V	15	3.5V
5	4.3V	16	3.1V
6	3V	17	4.4V
7	4.7V	18	0.1V
8	4.3V	19	3.6V
9	4.4V	20	0V

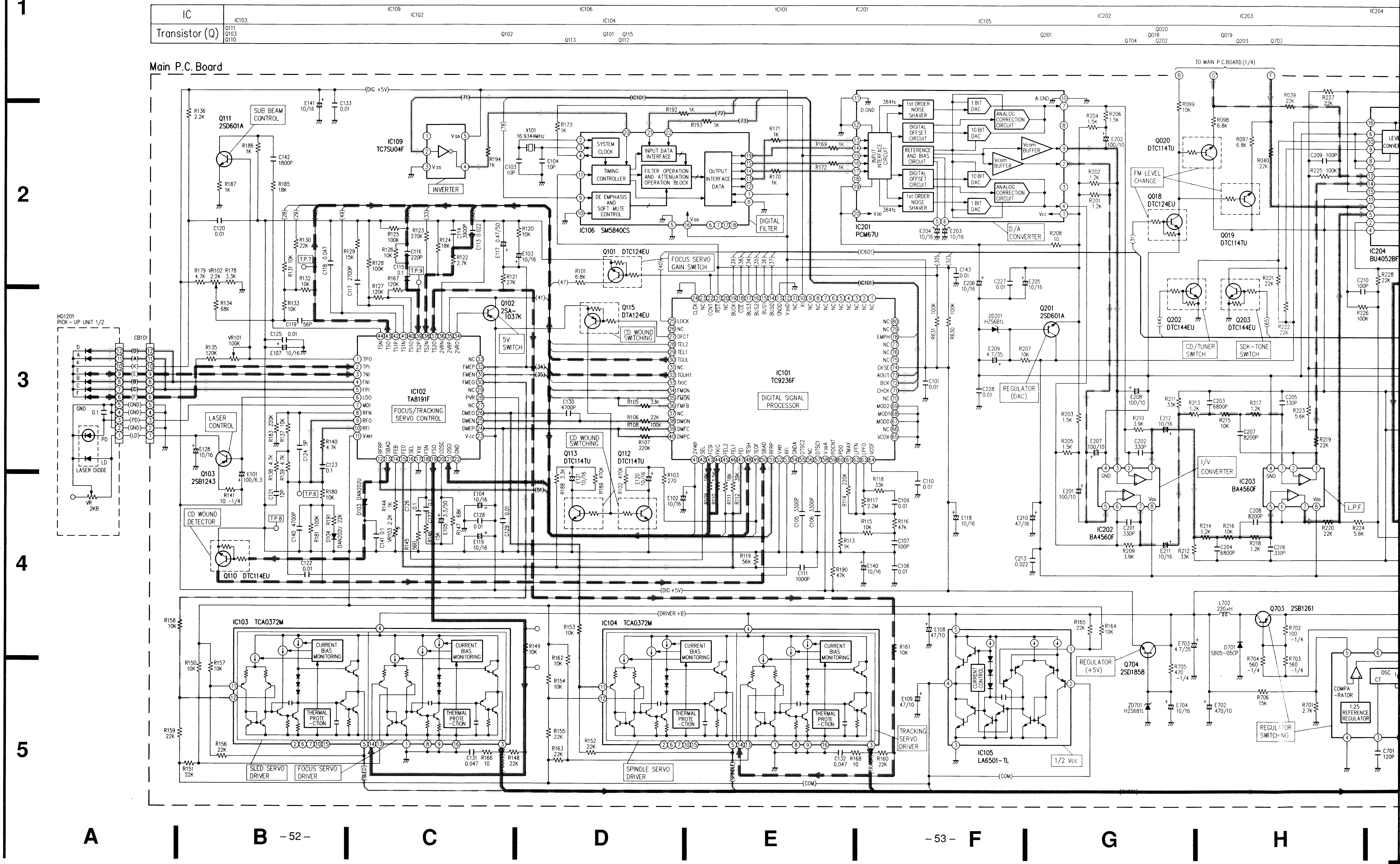
	E	C	B
Q001	1.4V	8.1V	0.8V
Q002	0.2V	0V	0.7V
Q003	0.7V	0V	1.2V
Q004	0V	4.9V	0V
Q005	4.8V	0.2V	5V
Q006	8.6V	0V	0V
Q007	8V	8.6V	8.7V
Q009	0.6V	9.3V	1.2V
Q010	0V	0.6V	1V
Q011	1V	0V	0V
Q012	4.9V	0V	0V
Q013	8.7V	8.6V	8V
Q014	8.7V	0.5V	8.7V
Q015	0V	8.7V	0V
Q016	0.1V	0.1V	0V
Q017	0.6V	4.3V	0V

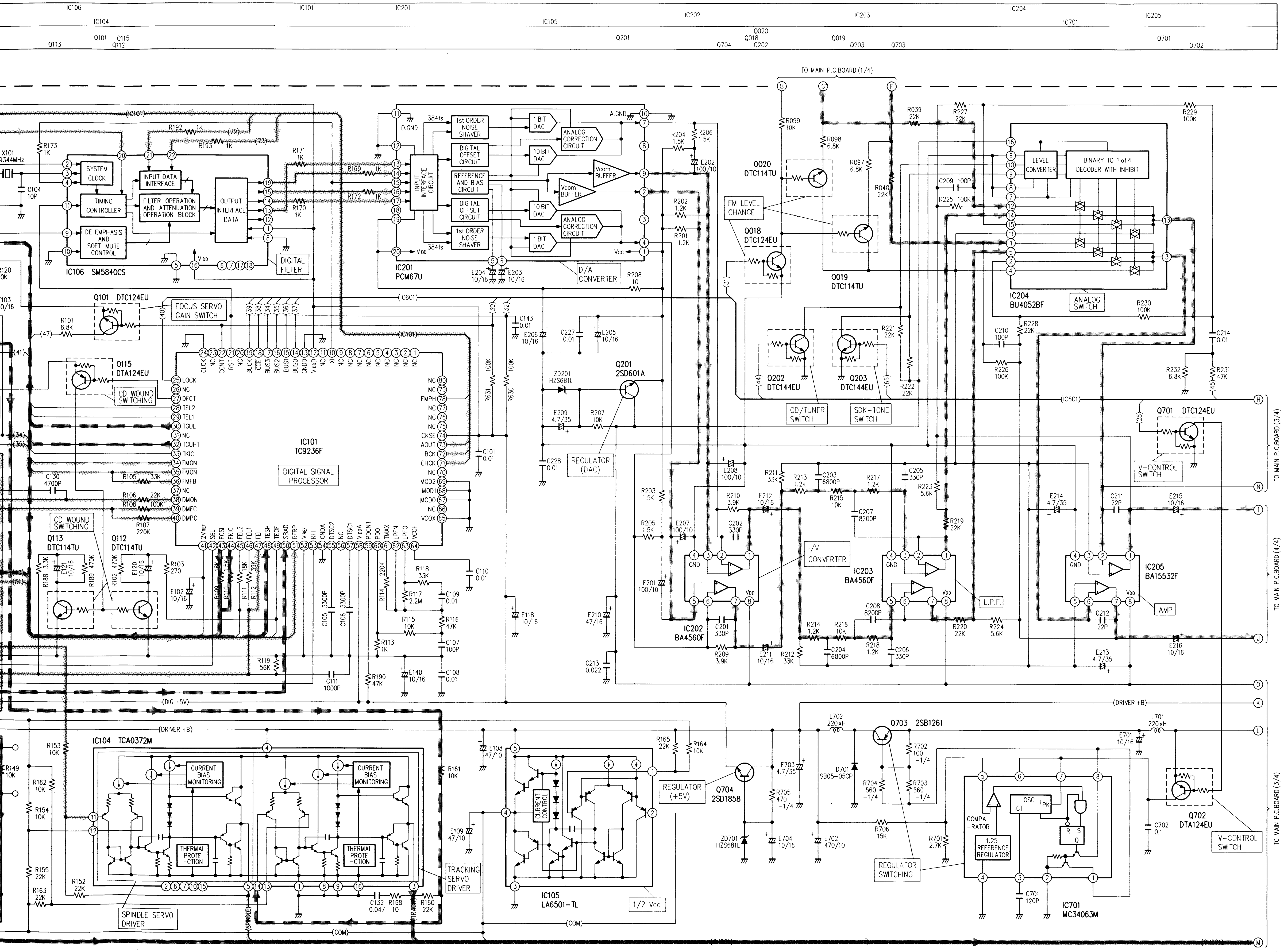
[Measuring Conditions]
∗Power Supply Voltage: DC14V
∗Measuring Meter: Digital Multi Voltmeter
∗Measuring Point Reference: Between Ground
∗Measuring Conditions:
CD: Be playing back the 2nd Music
of the test CD (YEDS - 18).
TUNER: No signal input
FM: 98.1 MHz
MW: 999 kHz
LW: 216 kHz

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (2/4)


1
2
3
4
5
A
B
C
D
E
F
G
H
IC
Transistor (Q)
IC103 IC109 IC102 IC106 IC104 IC101 IC201 IC105 IC202 IC203 IC204
Q111 Q103 Q110 Q102 Q113 Q101 Q115 Q112 Q201 Q704 Q020 Q018 Q202 Q019 Q203 Q703
Main P.C. Board
TO MAIN P.C.BOARD (1/4)
HD1201
PICK - UP UNIT 1/2
LASER DIODE
VR 2KB
CB101
SUB BEAM CONTROL
Q111 2SD601A
LASER CONTROL
Q103 2SB1243
CD WOUND DETECTOR
Q110 DTC114EU
IC109 TC7SU04F
INVERTER
X101 16.9344MHz
IC106 SM5840CS
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DE EMPHASIS AND SOFT MUTE CONTROL
DIGITAL FILTER
IC201 PCM67U
INPUT INTERFACE CIRCUIT
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
1 BIT DAC
10 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
D/A CONVERTER
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
Q115 DTA124EU
CD WOUND SWITCHING
Q102 2SA-1037K
5V SWITCH
IC102 TA8191F
FOCUS/TRACKING SERVO CONTROL
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
Q113 DTC114TU
Q112 DTC114TU
Q201 2SD601A
ZD201 HZS6B1L
REGULATOR (DAC)
Q020 DTC114TU
FM LEVEL CHANGE
Q018 DTC124EU
Q019 DTC114TU
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
IC204 BU4052BF
LEVEL CONVERTER
IC202 BA4560F
IC203 BA4560F
I/V CONVERTER
L.P.F.
(DIG +5V)
(DRIVER +B)
(COM)
IC103 TCA0372M
IC104 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE -CTION
SLED SERVO DRIVER
FOCUS SERVO DRIVER
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
IC105 LA6501-TL
CURRENT CONTROL
1/2 Vcc
REGULATOR (+5V)
Q704 2SD1858
ZD701 HZS6B1L
L702 220μH
Q703 2SB1261
D701 SB05-05CP
REGULATOR SWITCHING
COMPA -RATOR
1.25 REFERENCE REGULATOR
OSC CT


IC106
IC104
IC101
IC201
IC105
IC202
IC203
IC204
IC701
IC205
Q113
Q101 Q115
Q112
Q201
Q704
Q020
Q018
Q202
Q019
Q203
Q703
Q701
Q702
TO MAIN P.C.BOARD (1/4)
X101 16.9344MHz
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DE EMPHASIS AND SOFT MUTE CONTROL
DIGITAL FILTER
IC106 SM5840CS
INPUT INTERFACE CIRCUIT
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
1 BIT DAC
10 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
D/A CONVERTER
IC201 PCM67U
384fs
D.GND
A.GND
Q020 DTC114TU
Q018 DTC124EU
Q019 DTC114TU
FM LEVEL CHANGE
LEVEL CONVERTER
BINARY TO 1 of 4 DECODER WITH INHIBIT
IC204 BU4052BF
ANALOG SWITCH
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
Q115 DTA124EU
CD WOUND SWITCHING
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
Q113 DTC114TU
Q112 DTC114TU
Q201 2SD601A
ZD201 HZS6B1L
REGULATOR (DAC)
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
Q701 DTC124EU
V-CONTROL SWITCH
I/V CONVERTER
IC202 BA4560F
IC203 BA4560F
L.P.F.
IC205 BA15532F
AMP
TO MAIN P.C.BOARD (3/4)
TO MAIN P.C.BOARD (4/4)
(DIG+5V)
(DRIVER+B)
IC104 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE-CTION
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
IC105 LA6501-TL
CURRENT CONTROL
1/2 Vcc
REGULATOR (+5V)
Q704 2SD1858
ZD701 HZS6B1L
D701 SB05-05CP
Q703 2SB1261
REGULATOR SWITCHING
COMPA-RATOR
1.25 REFERENCE REGULATOR
OSC CT
IC701 MC34063M
Q702 DTA124EU
V-CONTROL SWITCH
(COM)
(SPINDLE)
(TRACKING)

IC101

1	4.8V	17	PS	33	1.7V	49	2.2V	65	0V
2	4.8V	18	PS	34	2.2V	50	2.5V	66	PS
3		19	PS	35	2.2V	51	2.4V	67	0.1V
4	PS	20	PS	36	2.1V	52	2.2V	68	0.1V
5	PS	21	5V	37	5V	53	PS	69	0.1V
6	PS	22	0V	38	2.2V	54	0.1V	70	PS
7	PS	23	PS	39	PS	55	2.6V	71	PS
8	PS	24	0V	40	PS	56	2.6V	72	PS
9	5.1V	25	5.1V	41	4.3V	57	5.6V	73	PS
10	2.5V	26	4.8V	42	5.1V	58	5.1V	74	5.1V
11	2.4V	27	4.7V	43	2.6V	59	PS	75	0V
12	5.1V	28	2.2V	44	2.6V	60	PS	76	5V
13	0V	29	2.2V	45	2.2V	61	PS	77	5.1V
14	PS	30	2.2V	46	2.2V	62	2.3V	78	0V
15	PS	31	0.4V	47	2.2V	63	2.5V	79	5V
16	PS	32	0.4V	48	2.2V	64	1.6V	80	PS

IC102

1	1.7V	12	PS	23	5V	34	4.4V
2	2V	13	2.7V	24	PS	35	0V
3	2V	14	2V	25	2.1V	36	2.1V
4	2V	15	PS	26	PS	37	PS
5	2V	16	4.9V	27	PS	38	2V
6	3.9V	17	0V	28	2.1V	39	2V
7	0.1V	18	PS	29	2.1V	40	PS
8	2.1V	19	PS	30	2V	41	2V
9	PS	20	PS	31	2V	42	2.1V
10	PS	21	2.4V	32	2.1V	43	2.1V
11	2.1V	22	0V	33	PS	44	2.1V

IC103

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC104

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC105

1	2.6V
2	4V
3	0V
4	4V
5	8.5V

IC109

1	0.1V
2	0V
3	0.1V
4	0.2V

IC106

1	5.1V	12	PS
2	2.6V	13	PS
3	2.6V	14	PS
4	PS	15	PS
5	0V	16	5.1V
6	0V	17	0V
7	0V	18	0V
8	5.1V	19	PS
9	0V	20	PS
10	0V	21	PS
11	4.9V	22	PS

IC201

1	5V	11	0V
2	3.5V	12	0.3V
3	0.4V	13	PS
4	3.5V	14	PS
5	3.2V	15	PS
6	4.2V	16	PS
7	3.5V	17	PS
8	0.4V	18	0V
9	3.5V	19	0V
10	0V	20	4.9V

IC202

1	AUDIO
2	3.5V
3	3.5V
4	0V
5	3.5V
6	3.5V
7	AUDIO
8	8.3V

IC203

1	AUDIO
2	AUDIO
3	AUDIO
4	0V
5	AUDIO
6	AUDIO
7	AUDIO
8	8.3V

IC205

1	AD 4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	AUDIO
8	8.3V

IC204

1	AD 3.7V	9	0V
2	AD 4.1V	10	8V
3	4.2V	11	0V
4	0V	12	AD 3.7V
5	4.2V	13	4.2V
6	0V	14	4.2V
7	0V	15	AD 4V
8	0V	16	8.3V

IC701

1	13.7V
2	0V
3	0.2V
4	0V
5	0V
6	0V
7	0V
8	13.7V

	E	C	B		E	C	B
Q018	0V	6.4V	0V	Q113	0V	0V	0.1V
Q019	0V	4.6V	4.4V	Q115	0V	0V	0V
Q020	4.4V	4.6V	0V	Q201	5.7V	8.9V	5V
Q101	0V	0V	0V	Q202	5.1V	0V	0V
Q102	0V	0V	0V	Q203	3.5V	0V	0V
Q103	0V	0.1V	0V	Q701	0V	13.2V	0V
Q110	0V	0V	0V	Q702	13.2V	0V	13.8V
Q111	0V	0V	0V	Q703	13.7V	0V	13.7V
Q112	0V	0V	−0.4V	Q704	0V	0V	0V

[Measuring Conditions]

- * Power Supply Voltage : DC14V
- * Measuring Meter : Digital Multi Voltmeter
- * Measuring Point Reference : Between Ground
- * Measuring Conditions :

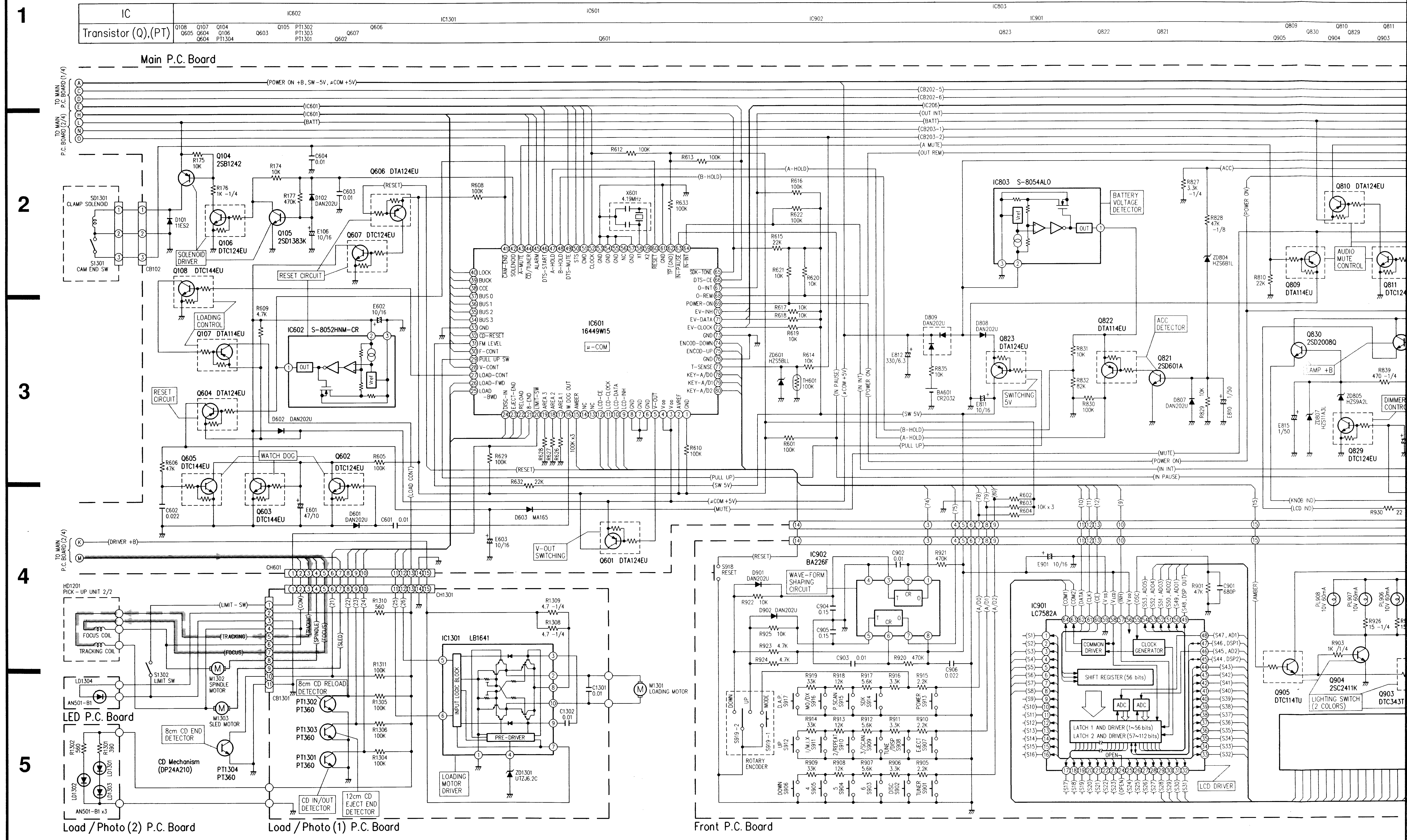
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

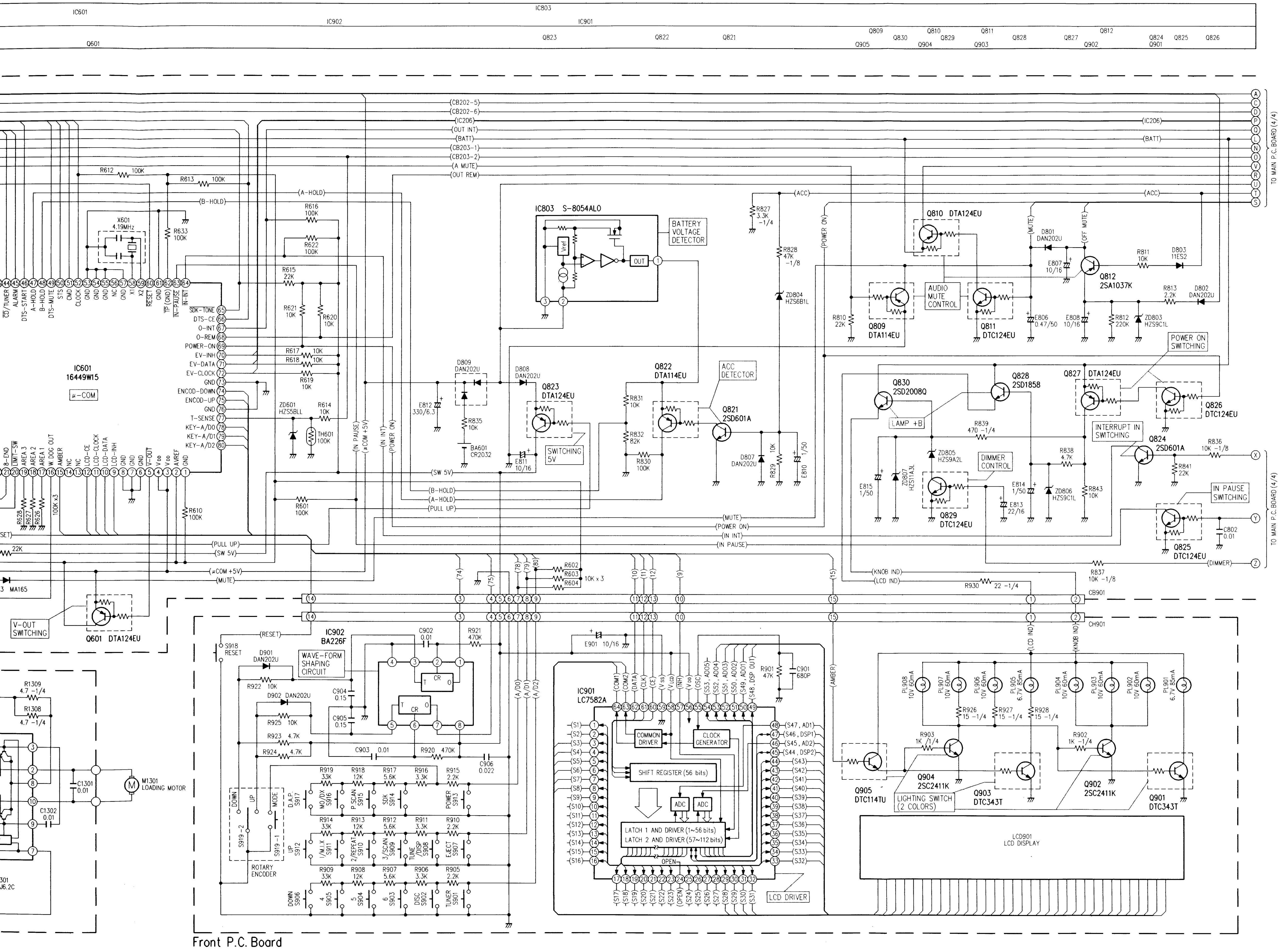
CD Signal Line (Digital)
L–ch Signal Line
R–ch Signal Line
Focus Servo Signal Line
Tracking Servo Signal Line
Spindle Servo Signal Line
Sled Servo Signal Line

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (3/4)


1
2
3
4
5
IC
Transistor (Q),(PT)
IC602
IC1301
IC601
IC902
IC803
IC901
Main P.C. Board
TO MAIN P.C. BOARD (1/4)
TO MAIN P.C. BOARD (2/4)
(POWER ON +B, SW -5V, μCOM +5V)
(IC601)
(BATT)
SD1301 CLAMP SOLENOID
S1301 CAM END SW
Q104 2SB1242
D101 11ES2
Q106 DTC124EU
SOLENOID DRIVER
Q105 2SD1383K
D102 DAN202U
Q606 DTA124EU
Q607 DTC124EU
RESET CIRCUIT
Q108 DTC144EU
LOADING CONTROL
Q107 DTA114EU
IC602 S-8052HNM-CR
Q604 DTA124EU
D602 DAN202U
WATCH DOG
Q605 DTC144EU
Q603 DTC144EU
Q602 DTC124EU
D601 DAN202U
D603 MA165
V-OUT SWITCHING
Q601 DTA124EU
X601 4.19MHz
IC601 16449W15
μ-COM
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
D809 DAN202U
D808 DAN202U
BA601 CR2032
ZD601 HZS5BLL
TH601 100K
Q823 DTA124EU
SWITCHING 5V
Q822 DTA114EU
ACC DETECTOR
Q821 2SD601A
D807 DAN202U
ZD804 HZS6B1L
Q810 DTA124EU
Q809 DTA114EU
AUDIO MUTE CONTROL
Q811 DTC124
Q830 2SD2008Q
AMP +B
ZD805 HZS9A2L
ZD807 HZS11A3L
Q829 DTC124EU
DIMMER CONTROL
HD1201 PICK-UP UNIT 2/2
FOCUS COIL
TRACKING COIL
S1302 LIMIT SW
M1302 SPINDLE MOTOR
M1303 SLED MOTOR
8cm CD END DETECTOR
PT1304 PT360
CD Mechanism (DP24A210)
8cm CD RELOAD DETECTOR
PT1302 PT360
PT1303 PT360
PT1301 PT360
CD IN/OUT DETECTOR
12cm CD EJECT END DETECTOR
IC1301 LB1641
INPUT LOGIC BLOCK
PRE-DRIVER
LOADING MOTOR DRIVER
ZD1301 UTZJ6.2C
M1301 LOADING MOTOR
CH601
CB1301
CH1301
LD1304
AN501-B1
LED P.C. Board
LD1301
LD1302
LD1303
AN501-B1 x3
Load / Photo (2) P.C. Board
Load / Photo (1) P.C. Board
S918 RESET
D901 DAN202U
D902 DAN202U
WAVE-FORM SHAPING CIRCUIT
IC902 BA226F
ROTARY ENCODER
Front P.C. Board
IC901 LC7582A
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
ADC
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
LCD DRIVER
Q905 DTC114TU
Q904 2SC2411K
LIGHTING SWITCH (2 COLORS)
Q903 DTC343T
PL908 10V 60mA
PL907 10V 60mA
PL906 10V 60mA
A
B
C
D
E
F
G
H


IC601
IC902
IC803
IC901
Q601
Q823
Q822
Q821
Q809
Q905
Q830
Q810
Q904
Q829
Q811
Q903
Q828
Q827
Q812
Q902
Q824
Q901
Q825
Q826
IC601
16449W15
μ-COM
X601
4.19MHz
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
OUT
Vref
Q810 DTA124EU
Q812
2SA1037K
AUDIO MUTE CONTROL
Q809
DTA114EU
Q811
DTC124EU
D801 DAN202U
D803 11ES2
D802 DAN202U
ZD803 HZS9C1L
ZD804 HZS6B1L
POWER ON SWITCHING
D809 DAN202U
D808 DAN202U
Q823
DTA124EU
SWITCHING 5V
Q822
DTA114EU
ACC DETECTOR
Q821
2SD601A
D807 DAN202U
BA601 CR2032
Q830
2SD2008Q
Q828
2SD1858
LAMP +B
Q827 DTA124EU
Q826
DTC124EU
INTERRUPT IN SWITCHING
Q824
2SD601A
DIMMER CONTROL
ZD805 HZS9A2L
ZD807 HZS11A3L
ZD806 HZS9C1L
Q829
DTC124EU
IN PAUSE SWITCHING
Q825
DTC124EU
ZD601 HZS5BLL
TH601 100K
V-OUT SWITCHING
Q601 DTA124EU
M1301 LOADING MOTOR
S918 RESET
D901 DAN202U
D902 DAN202U
WAVE-FORM SHAPING CIRCUIT
IC902
BA226F
CR
S919-2
S919-1
DOWN
UP
MODE
ROTARY ENCODER
D.A.P. S917
MO/DX S916
P.SCAN S915
SDK S914
POWER S913
UP S912
I/MIX S911
2/REPEAT S910
3/SCAN S909
TUNE/DISP S908
EJECT S907
DOWN S906
4 S905
5 S904
6 S903
DISC S902
TUNER S901
IC901
LC7582A
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
ADC
ADC
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
OPEN
LCD DRIVER
PL908 10V 60mA
PL907 10V 60mA
PL906 10V 60mA
PL905 6.7V 85mA
PL904 10V 60mA
PL903 10V 60mA
PL902 10V 60mA
PL901 6.7V 85mA
Q904
2SC2411K
Q903
DTC343T
Q905
DTC114TU
LIGHTING SWITCH (2 COLORS)
Q902
2SC2411K
Q901
DTC343T
LCD901
LCD DISPLAY
CB901
CH901
TO MAIN P.C. BOARD (4/4)
TO MAIN P.C. BOARD (4/4)
Front P.C. Board

IC601

1	4.6V/0V	18	5V	33	0V	42	0V	59	PS	68	0V/5V
2	5.1V/0V	19	5V	34	PS	43	5.1V/0V	60	5V		O-REM OFF/ON
3	5V/6V	20	0V/4.6V		CD	44	5.1V/0V	61	0V		
4	5V/6V	21	0V	35	PS	45	0V/PS	62	5V	69	2.8V/0V
5	0V/5.3V	22	0V		CD	46	PS	63	5V/0V		POW ON/OFF
6	0V	23	0V	36	PS	47	5.4V/0V		IN-INT OFF/ON	70	PS
7	0V	24	0V		CD	48	4.8V/0V			71	PS
8	0V	25	0V	37	PS	49	PS	64	5V/0V	72	PS
9	5.1V	26	0V		CD	50	PS		IN-PAUSE OFF/ON	73	0V
10	PS	27	5V	38	PS	51	PS			74	PS
11	PS	28	0V/5.1V		CD	52	PS	65	5V/0V	75	PS
12	PS		TUNER/CD	39	PS	53	0V		SDK-TONE OFF/ON	76	0V
13	0V	29	0V		CD	54	0V			77	5V
14	0V	30	0V	40	5.1V	55	0V	66	PS	78	5V
15	5.1V/0V	31	5.1V/0V		CD	56	0V	67	0V/5V	79	5V
16	PS	32	0V/5V	41	0V/5.1V	57	0V		O-INT OFF/ON	80	5V
17	5V		TUNER/CD		DISC IN/OUT	58	PS				

IC602

1	5.1V
2	5.1V
3	0V

IC803

1	5.4V
2	5.8V
3	0V

IC901

1	NC	17	NC	33	PS	49	PS
2	NC	18	NC	34	PS	50	PS
3	PS	19	NC	35	PS	51	PS
4	PS	20	NC	36	PS	52	PS
5	PS	21	NC	37	PS	53	PS
6	PS	22	NC	38	PS	54	NC
7	PS	23	NC	39	PS	55	0V
8	PS	24	NC	40	PS	56	5V
9	NC	25	NC	41	PS	57	PS
10	NC	26	NC	42	PS	58	5V
11	NC	27	NC	43	PS	59	PS
12	NC	28	NC	44	PS	60	0V
13	NC	29	PS	45	PS	61	PS
14	NC	30	PS	46	PS	62	PS
15	NC	31	PS	47	PS	63	PS
16	NC	32	PS	48	PS	64	PS

IC902

1	0.1V
2	0V
3	0V
4	0V
5	0V
6	0V
7	0.1V
8	0V

IC1301

1	0V
2	6V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	0V
10	6V

	E	C	B		E	C	B
Q104	14V	0V	0V	Q821	0.6V	0V	0V
Q105	0V	0V	0V	Q822	0V	5.4V	5.4V
Q106	0V	13.6V	0V	Q823	0.2V	5.2V	5.2V
Q107	5.1V	−0.1V	5.1V	Q824	0V	5V	0V
Q108	0V	5.1V	0V	Q825	0V	4.9V	0V
Q601	0V	5.1V	5.1V	Q826	2.7V	0V	0V
Q602	0V	5.1V	0V	Q827	14V	0V	14V
Q603	0.2V	0.1V	0V	Q828	11.6V	13.8V	13.3V
Q604	5.2V	0V	5.1V	Q829	0V	2V	0V
Q605	0V	0.1V	0V	Q830	9.3V	13.8V	10V
Q606	5.1V	0V	4.9V	Q901	0V	11.3V	0.1V
Q607	0V	4.9V	0V	Q902	0V	11.3V	0.1V
Q809	5.1V	0V	5.1V	Q903	0.1V	11.2V	0.1V
Q810	13.7V	3.3V	13.7V	Q904	0.1V	9.1V	0.1V
Q811	0V	13.7V	0V	Q905	9.1V	0.1V	0.1V
Q812	8.5V	0.1V	9.1V				

[Measuring Conditions]

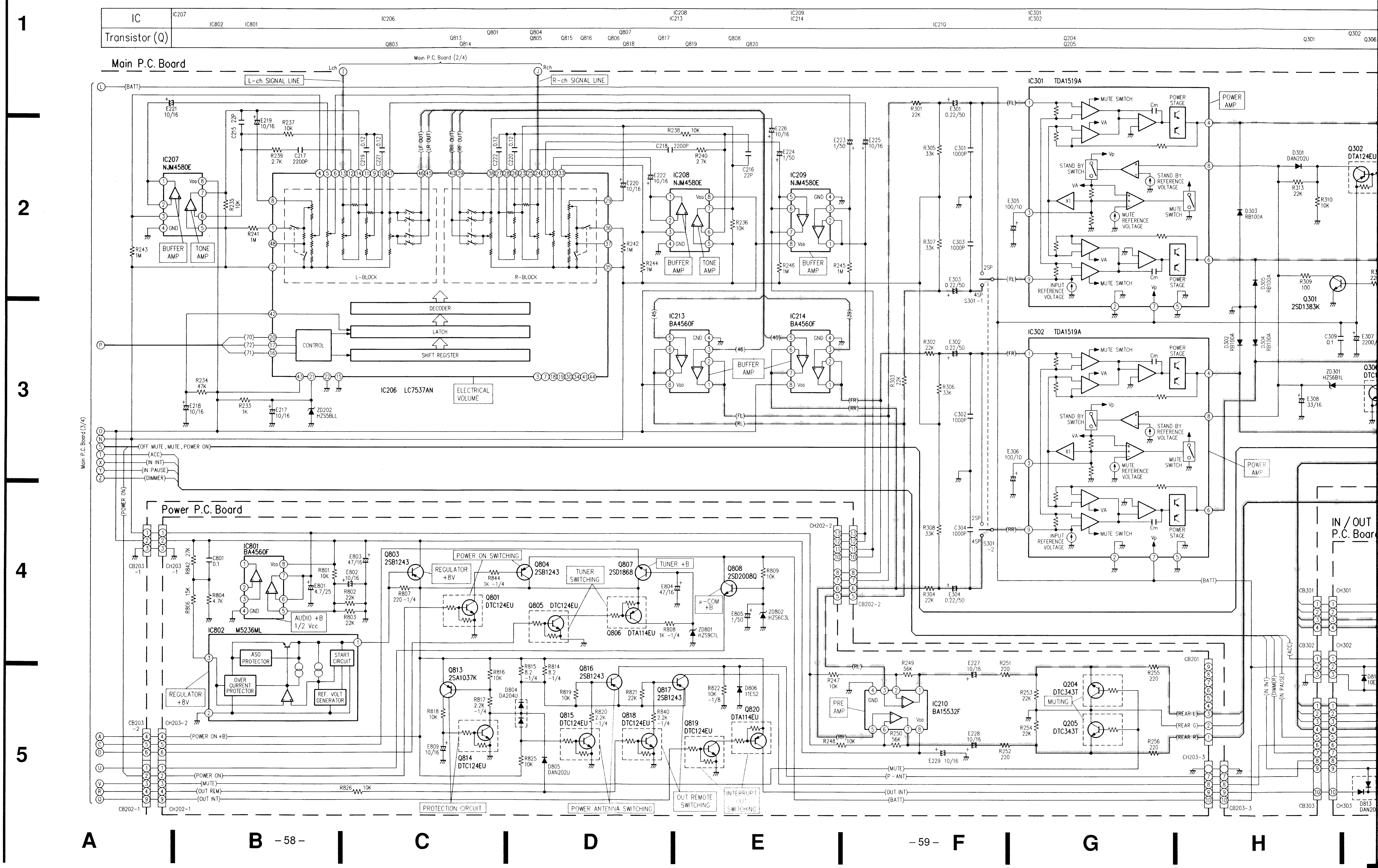
- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :
  CD : Be playing back the 2nd Music of the test CD (YEDS - 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

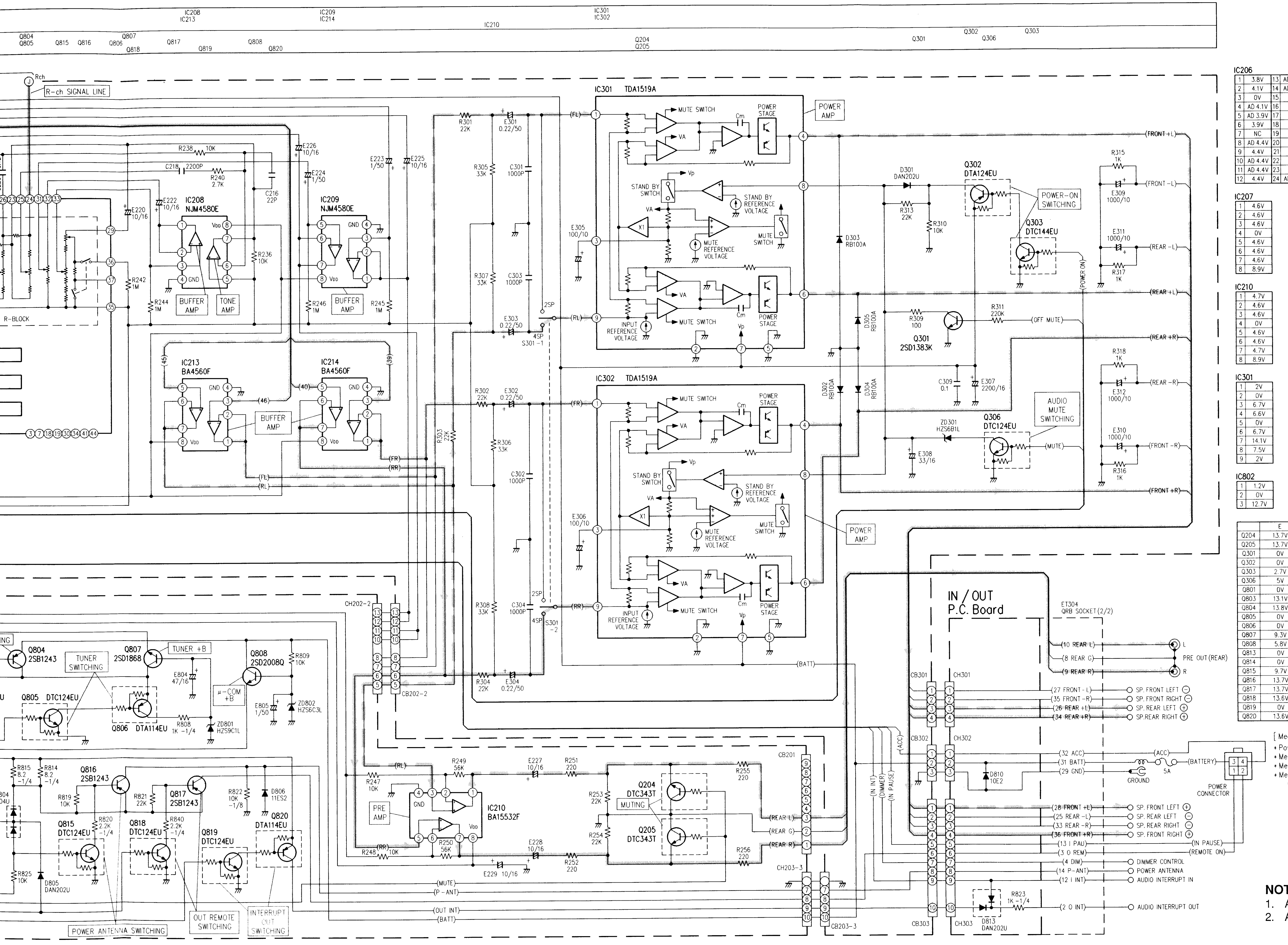
Focus Servo Signal Line
Tracking Servo Signal Line
Spindle Servo Signal Line
Sled Servo Signal Line

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (4/4)


IC
Transistor (Q)
IC207 IC802 IC801 IC206 IC208 IC213 IC209 IC214 IC210 IC301 IC302
Q803 Q813 Q814 Q801 Q804 Q805 Q815 Q816 Q806 Q807 Q818 Q817 Q819 Q808 Q820 Q204 Q205 Q301 Q302 Q306
Main P.C. Board
Main P.C. Board (2/4)
Lch
Rch
L-ch SIGNAL LINE
R-ch SIGNAL LINE
(BATT)
IC207 NJM4580E
BUFFER AMP
TONE AMP
IC206 LC7537AN
L-BLOCK
R-BLOCK
DECODER
LATCH
SHIFT REGISTER
CONTROL
ELECTRICAL VOLUME
(LF OUT) (LR OUT) (RR OUT) (RF OUT)
IC208 NJM4580E
IC209 NJM4580E
IC213 BA4560F
IC214 BA4560F
BUFFER AMP
ZD202 HZS5BLL
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
INPUT REFERENCE VOLTAGE
S301-1
S301-2
2SP
4SP
D301 DAN202U
D303 RB100A
D305 RB100A
D302 RB100A
D304 RB100A
Q302 DTA124EU
Q301 2SD1383K
ZD301 HZS6B1L
Main P.C. Board (3/4)
(OFF MUTE, MUTE, POWER ON)
(ACC)
(IN INT)
(IN PAUSE)
(DIMMER)
(POWER ON)
Power P.C. Board
CB203-1
CH203-1
IC801 BA4560F
AUDIO +B 1/2 Vcc
IC802 M5236ML
ASO PROTECTOR
OVER CURRENT PROTECTOR
START CIRCUIT
REF. VOLT GENERATOR
REGULATOR +8V
Q803 2SB1243
POWER ON SWITCHING
Q804 2SB1243
Q801 DTC124EU
Q805 DTC124EU
TUNER SWITCHING
Q807 2SD1868
TUNER +B
Q806 DTA114EU
ZD801 HZS9C1L
Q808 2SD2008Q
μ-COM +B
ZD802 HZS6C3L
CH202-2
CB202-2
Q813 2SA1037K
D804 DA204U
Q816 2SB1243
Q817 2SB1243
D806 11ES2
Q814 DTC124EU
D805 DAN202U
Q815 DTC124EU
Q818 DTC124EU
Q819 DTC124EU
Q820 DTA114EU
PROTECTION CIRCUIT
POWER ANTENNA SWITCHING
OUT REMOTE SWITCHING
INTERRUPT OUT SWITCHING
(POWER ON +B)
(POWER ON)
(MUTE)
(OUT REM)
(OUT INT)
CB203-2
CH203-2
CB202-1
CH202-1
IC210 BA15532F
PRE AMP
Q204 DTC343T
Q205 DTC343T
MUTING
(REAR L)
(REAR G)
(REAR R)
CB201
CH203-3
CB203-3
(MUTE)
(P-ANT)
(OUT INT)
(BATT)
(ACC)
(IN INT)
(DIMMER)
(IN PAUSE)
IN / OUT P.C. Board
CB301 CH301
CB302 CH302
CB303 CH303
D813 DAN20
1 2 3 4 5
A B C D E F G H


IC208 IC213
IC209 IC214
IC210
IC301 IC302
Q804 Q805 Q815 Q816 Q806 Q807 Q818 Q817 Q819 Q808 Q820
Q204 Q205
Q301 Q302 Q306 Q303
Rch
R-ch SIGNAL LINE
R-BLOCK
IC208 NJM4580E
IC209 NJM4580E
BUFFER AMP
TONE AMP
IC213 BA4560F
IC214 BA4560F
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
INPUT REFERENCE VOLTAGE
S301-1
S301-2
2SP
4SP
D301 DAN202U
Q302 DTA124EU
Q303 DTC144EU
POWER-ON SWITCHING
Q301 2SD1383K
(OFF MUTE)
ZD301 HZS6B1L
Q306 DTC124EU
AUDIO MUTE SWITCHING
(FRONT +L)
(FRONT -L)
(REAR -L)
(REAR +L)
(REAR +R)
(REAR -R)
(FRONT -R)
(FRONT +R)
(BATT)
(POWER ON)
(MUTE)
CH202-2
CB202-2
Q804 2SB1243
Q807 2SD1868
TUNER SWITCHING
TUNER +B
Q805 DTC124EU
Q806 DTA114EU
Q808 2SD2008Q
μ-COM +B
ZD801 HZS9C1L
ZD802 HZS6C3L
Q816 2SB1243
Q817 2SB1243
Q815 DTC124EU
Q818 DTC124EU
Q819 DTC124EU
Q820 DTA114EU
D805 DAN202U
D806 11ES2
POWER ANTENNA SWITCHING
OUT REMOTE SWITCHING
INTERRUPT OUT SWITCHING
PRE AMP
IC210 BA15532F
Q204 DTC343T
Q205 DTC343T
MUTING
CB201
CH203-3
CB203-3
(MUTE)
(P-ANT)
(OUT INT)
(BATT)
IN / OUT P.C. Board
ET304 QRB SOCKET (2/2)
CB301 CH301
CB302 CH302
CB303 CH303
PRE OUT (REAR)
L
R
SP. FRONT LEFT ⊖
SP. FRONT RIGHT ⊖
SP. REAR LEFT ⊕
SP. REAR RIGHT ⊕
(BATTERY)
GROUND
5A
D810 10E2
POWER CONNECTOR
SP. FRONT LEFT ⊕
SP. REAR LEFT ⊖
SP. REAR RIGHT ⊖
SP. FRONT RIGHT ⊕
(IN PAUSE)
(REMOTE ON)
DIMMER CONTROL
POWER ANTENNA
AUDIO INTERRUPT IN
AUDIO INTERRUPT OUT
D813 DAN202U

IC206

1	3.8V	13	AD 4.4V	25	AD 4.4V	37	4.4V
2	4.1V	14	AD 4.4V	26	4.4V	38	AD 4.4V
3	0V	15	0V	27	AD 4.4V	39	AD 4.4V
4	AD 4.1V	16	0V	28	4.4V	40	AD 4.4V
5	AD 3.9V	17	0V	29	AD 4.4V	41	NC
6	3.9V	18	0V	30	NC	42	8.3V
7	NC	19	8.3V	31	AD 4.4V	43	8.3V
8	AD 4.4V	20	0V	32	AD 4.4V	44	NC
9	4.4V	21	5V	33	AD 4.4V	45	AD 4.4V
10	AD 4.4V	22	5.1V	34	NC	46	AD 4.4V
11	AD 4.4V	23	0V	35	4.4V	47	AD 4.4V
12	4.4V	24	AD 4.4V	36	3.7V	48	NC

IC207

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC208

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC209

1	4.7V
2	4.7V
3	4.3V
4	0V
5	4.3V
6	4.7V
7	4.7V
8	8.9V

IC210

1	4.7V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.7V
8	8.9V

IC213

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC214

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC301

1	2V
2	0V
3	6.7V
4	6.6V
5	0V
6	6.7V
7	14.1V
8	7.5V
9	2V

IC302

1	2V
2	0V
3	6.7V
4	6.7V
5	0V
6	6.7V
7	14.1V
8	7.5V
8	2V

IC801

1	0V
2	0V
3	0V
4	0V
5	4.1V
6	4.1V
7	4.1V
8	8.3V

IC802

1	1.2V
2	0V
3	12.7V

	E	C	B
Q204	13.7V	0V	0V
Q205	13.7V	0V	0V
Q301	0V	7.4V	0.3V
Q302	0V	13.7V	13.8V
Q303	2.7V	0V	0V
Q306	5V	0V	0V
Q801	0V	0V	2.7V
Q803	13.1V	8.9V	12.5V
Q804	13.8V	13.7V	13.1V
Q805	0V	0V	0V
Q806	0V	0V	0V
Q807	9.3V	13.7V	8.7V
Q808	5.8V	13.8V	6.4V
Q813	0V		
Q814	0V	13.7V	0V
Q815	9.7V	0V	0V
Q816	13.7V	13.7V	13.1V
Q817	13.7V	13.7V	13V
Q818	13.6V	0.1V	0V
Q819	0V	13.6V	0V
Q820	13.6V	0V	13.6V

[Measuring Conditions]

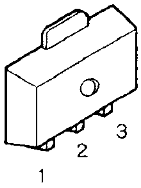
- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :

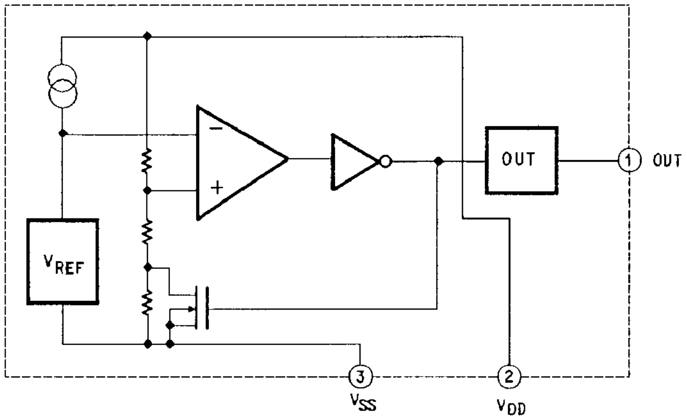
CD : Be playing back the 2nd Music
of the test CD (YEDS – 18).
TUNER : No signal input
FM : 98.1 MHz
MW : 999 kHz
LW : 216 kHz

NOTES:

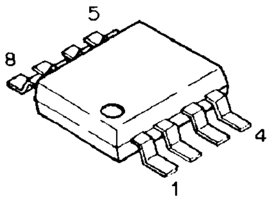
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

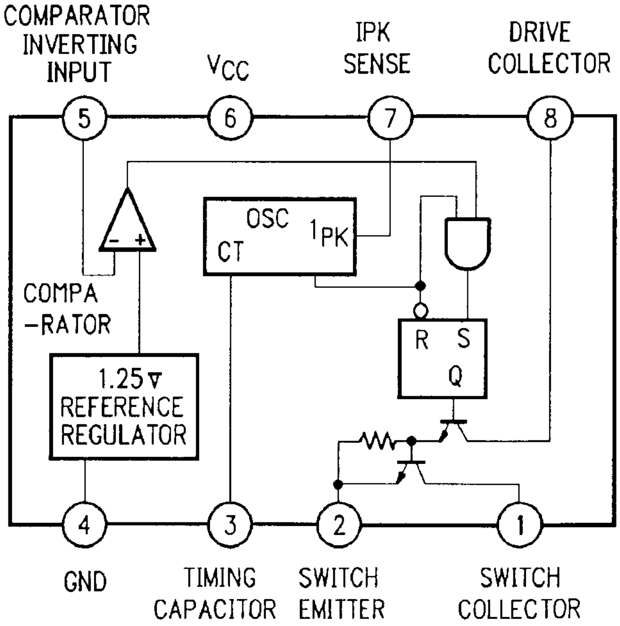
S-8052HNM-CR : IC602



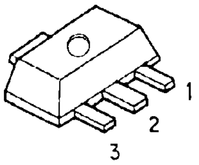

−
+
V_{REF}
OUT
① OUT
③ V_{SS}
② V_{DD}

MC34063M : IC701

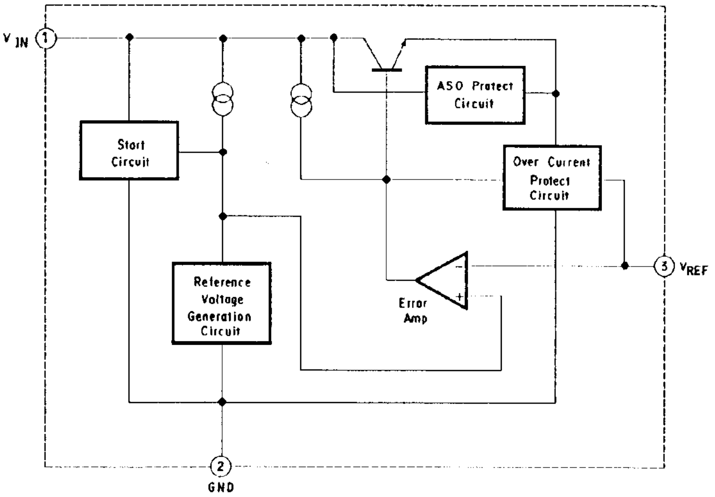



COMPARATOR INVERTING INPUT
VCC
IPK SENSE
DRIVE COLLECTOR
5
6
7
8
OSC
CT
IPK
− +
COMPA -RATOR
1.25V REFERENCE REGULATOR
R S
Q
4
3
2
1
GND
TIMING CAPACITOR
SWITCH EMITTER
SWITCH COLLECTOR

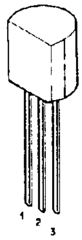
M5236ML : IC802

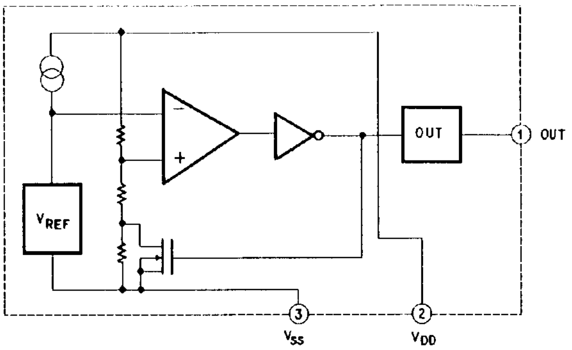


1 : V_{IN}
2 : GND
3 : V_{REF}

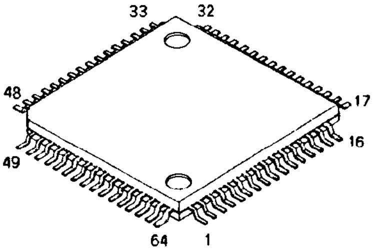

V IN ①
Start Circuit
ASO Protect Circuit
Over Current Protect Circuit
Reference Voltage Generation Circuit
Error Amp
− +
③ VREF
② GND

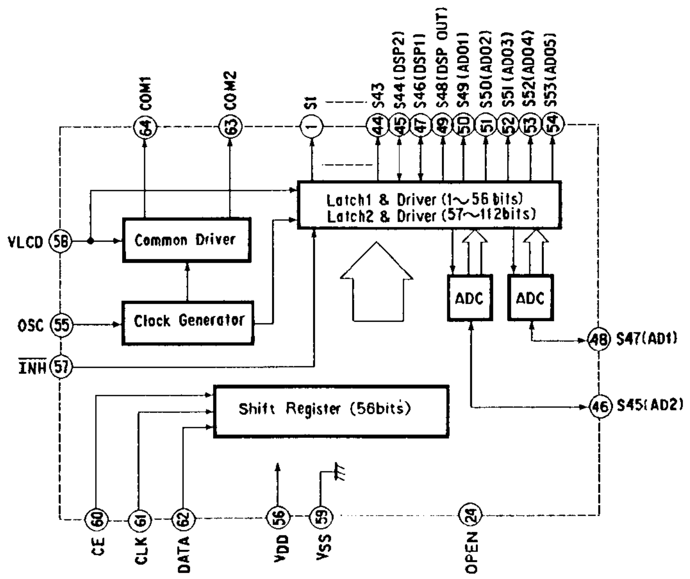
S-8052ALO : IC803



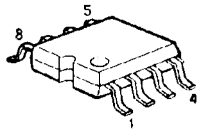

V_{REF}
OUT
1 OUT
3 V_{SS}
2 V_{DD}

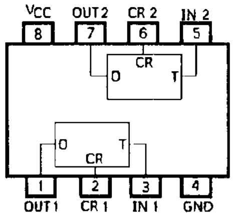
LC7582A : IC901


33
32
48
17
16
49
64
1

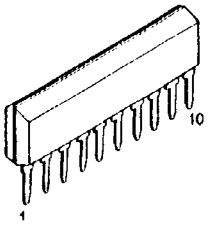

64 COM1
63 COM2
1 S1
44 S43
45 S44(DSP2)
47 S46(DSP1)
49 S48(DSP OUT)
50 S49(AD01)
51 S50(AD02)
52 S51(AD03)
53 S52(AD04)
54 S53(AD05)
Latch1 & Driver (1~56 bits)
Latch2 & Driver (57~112bits)
VLCD 58
Common Driver
OSC 55
Clock Generator
INH 57
ADC
ADC
48 S47(AD1)
46 S45(AD2)
Shift Register (56bits)
60 CE
61 CLK
62 DATA
56 VDD
59 VSS
24 OPEN

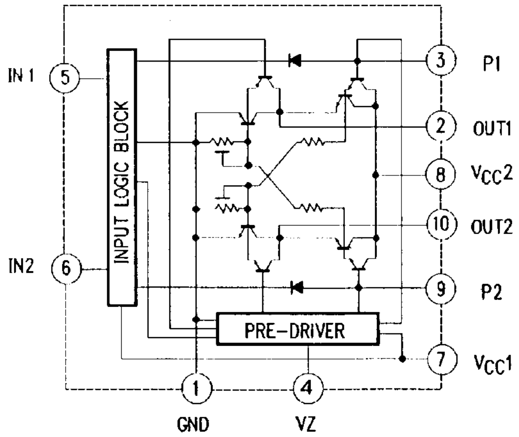
BA226F : IC902




Vcc 8
OUT2 7
CR 2 6
IN 2 5
CR
D
T
D
T
CR
1 OUT1
2 CR1
3 IN1
4 GND

LB1641 : IC1301 (DP24A210)




IN1 5
IN2 6
INPUT LOGIC BLOCK
PRE-DRIVER
3 P1
2 OUT1
8 VCC2
10 OUT2
9 P2
7 VCC1
1 GND
4 VZ

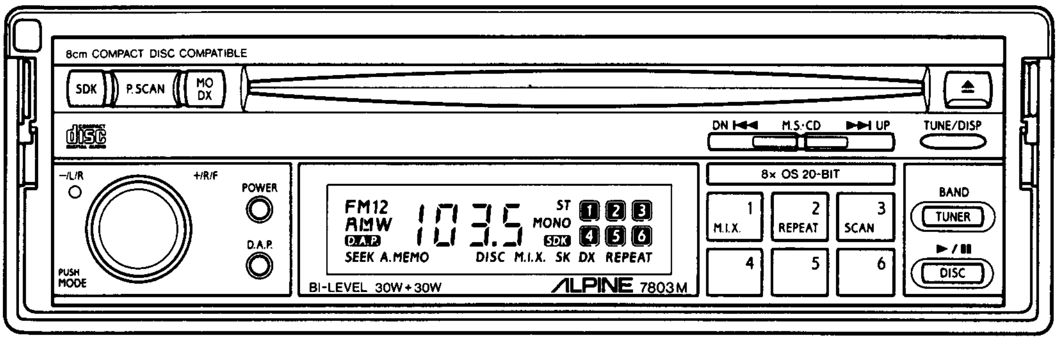
ALPINE SERVICE MANUAL

Digital FM/MW/LW/ Compact Disc Player

COMPACT
disc
DIGITAL AUDIO

REVISED

- Serial Numbers after No. 11025501M.
- For information that is not mentioned in this service manual refer to the Service Manual 7803M (68P32124W02).
- For the CD player mechanism parts (DP24A210) of this model, refer to the Service Manual • DP-S Series (68P13315W04).


8cm COMPACT DISC COMPATIBLE
SDK
P.SCAN
MO DX
DN ◄◄
M.S·CD
►►| UP
TUNE/DISP
–/L/R
+/R/F
POWER
D.A.P.
PUSH MODE
FM12
AMW
D.A.P.
1035
ST
MONO
SDK
SEEK A.MEMO
DISC M.I.X. SK DX REPEAT
8x OS 20-BIT
1 M.I.X.
2 REPEAT
3 SCAN
4
5
6
BAND
TUNER
►/II
DISC
BI-LEVEL 30W+30W
ALPINE 7803M

7803M

Contents

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Schematic Diagram (2/4) .... 12 to 14
Schematic Diagram (3/4) .... 15 to 17
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Packing Assembly Parts List 25
Semi - Conductor Lead Identifications 26

Spare Schematic Diagram Inserted.

Specifications

- Refer to the Service Manual 7803M (68P32124W02) for the description not mentioned in this manual.

<FM SECTION>

Intermediate Frequency	10.7 ± 0.1MHz
Frequency Range	87.5~108MHz
Usable Sensitivity (Mono 30dB S/N, at 98.1MHz)	17.2dBf
Limiting Sensitivity (-10dB, at 98.1MHz)	13.2 ± 6dBf
S/N Ratio (Stereo at 98.1MHz)	48dB
Image Rejection (at 98.1MHz)	40dB
IF Rejection (at 90.1MHz)	60dB
Distortion (Input 1mV at 98.1MHz)	1%
Frequency Response (Ref. 400Hz, at 98.1MHz)	100Hz : 0 ± 3dB
	10kHz : -12 ± 3dB
Stereo Separation (at 1kHz)	25dB
SK Sensitivity (at 98.1MHz)	25.2dBf

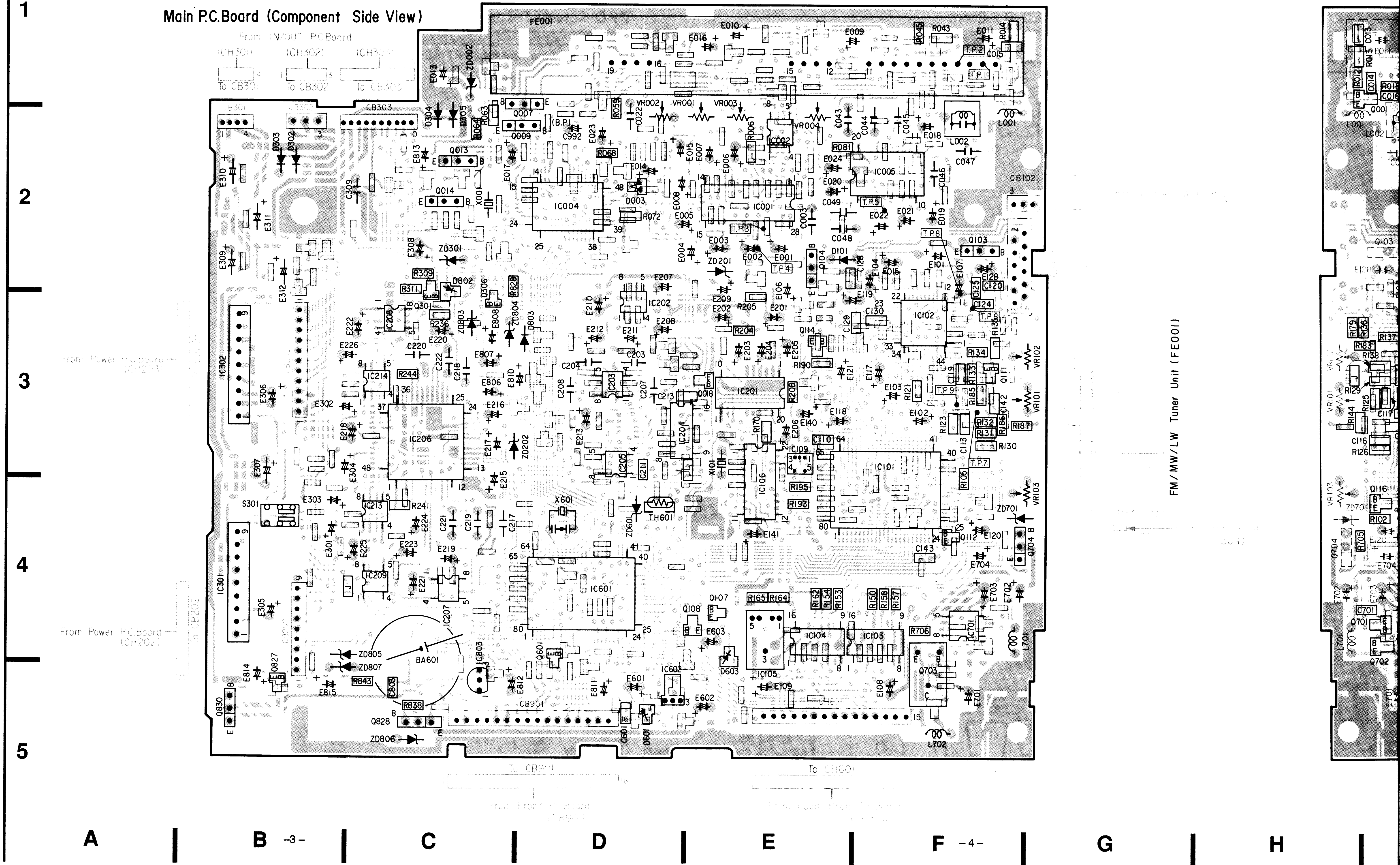
<GENERAL>

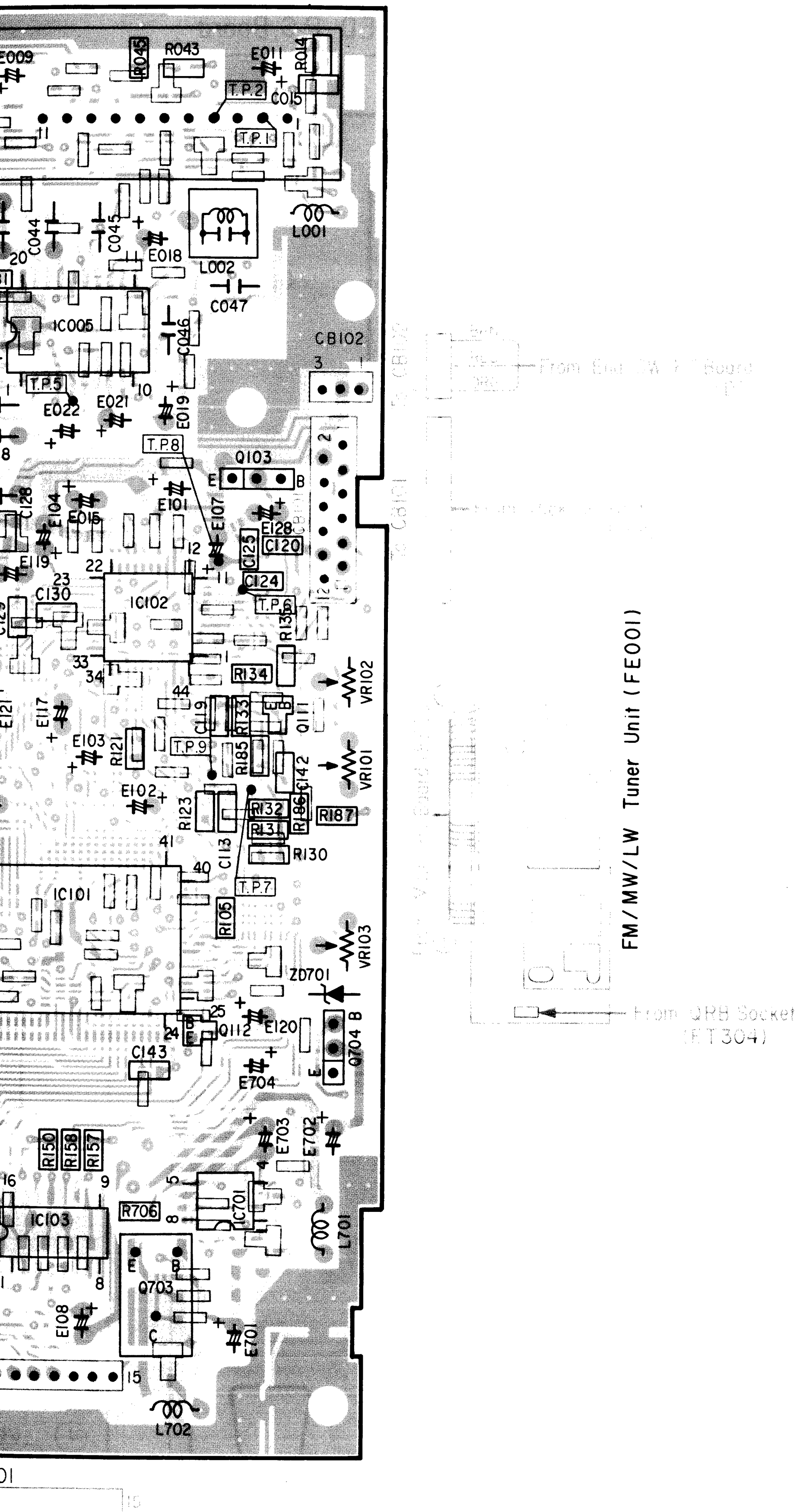
Power Supply	DC14V
Output Power (T.H.D 10% at 1kHz)	2 Speaker Mode : 13W/ch/4ohm
	4 Speaker Mode : 4W/ch/4ohm
Pre-Output Voltage/Impedance	1.6V/10kohm
Semiconductors	35IC's, 88Transistors, 30Diodes, 14Zener Diodes
Dimensions (W×H×D)	Chassis : 178 × 50 × 153mm
	Nose : 178 × 50 × 15mm
Weight	2.2kg

NOTE : Due to Continuing product improvement, specifications and designs are subject to change without notice.

Parts Layout on P.C. Boards and Wiring Diagram (1/2)

Main P.C.Board (Component Side View)

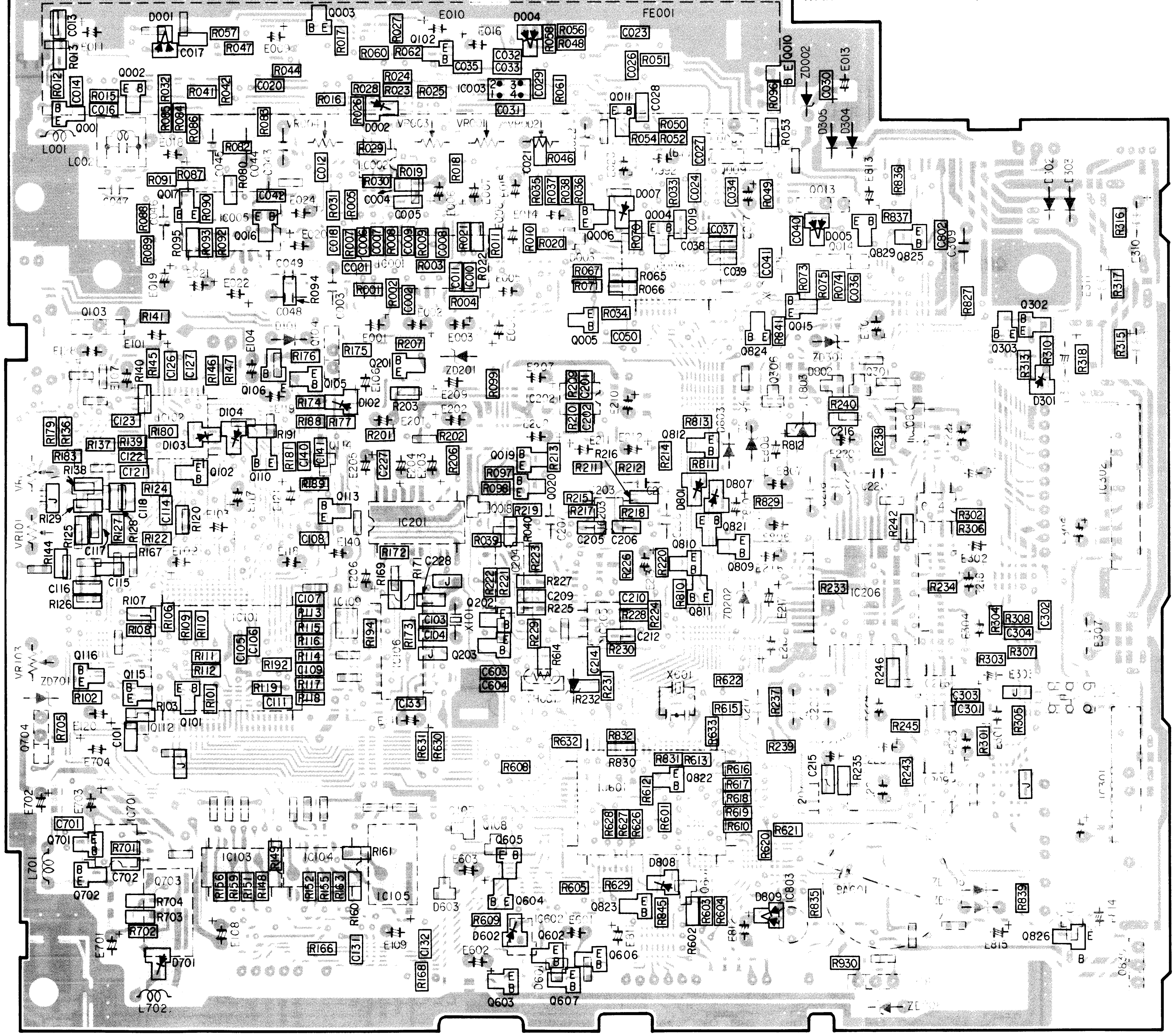

1
2
3
4
5
A
B
C
D
E
F
G
H
From IN/OUT P.C.Board
(CH301)
(CH302)
(CH303)
To CB301
To CB302
To CB303
CB301
CB302
CB303
FE001
From Power P.C.Board (CH223)
From Power P.C.Board (CH202)
To CB202
IC302
IC301
IC004
IC001
IC005
IC002
IC202
IC201
IC102
IC206
IC208
IC214
IC213
IC209
IC207
IC203
IC204
IC205
IC106
IC109
IC101
IC601
IC602
IC104
IC103
IC105
IC701
IC803
BA601
X601
X101
X001
TH601
S301
CB102
CB901
To CB901
To CH601
From Front P.C.Board
L001
L002
L701
L702
VR001
VR002
VR003
VR004
VR101
VR102
VR103
T.P.1
T.P.2
T.P.3
T.P.4
T.P.5
T.P.6
T.P.7
T.P.8
T.P.9
FM/MW/LW Tuner Unit (FE001)


E009
R045
R043
E011
R014
T.P.2
C015
T.P.1
C044
C045
E018
L002
C047
L001
IC005
C046
E019
E021
E022
T.P.5
CB102
T.P.8
Q103
E101
E107
E104
E015
C128
E128
C120
C123
C124
T.P.6
IC102
C130
E119
R134
VR102
E117
E103
R121
T.P.9
R133
C119
C118
Q111
R185
C142
VR101
E102
R123
R132
R131
R167
R130
C113
IC101
T.P.7
R105
VR103
ZD701
Q112
E120
Q704
C143
E704
E703
E702
R150
R158
R157
IC103
R706
IC701
L701
Q703
E108
E701
L702
FM/MW/LW Tuner Unit (FE001)
From QRB Socket (FT304)

01

...o P.C.Board
(CH1301)

Main P.C.Board (Foil Side View)

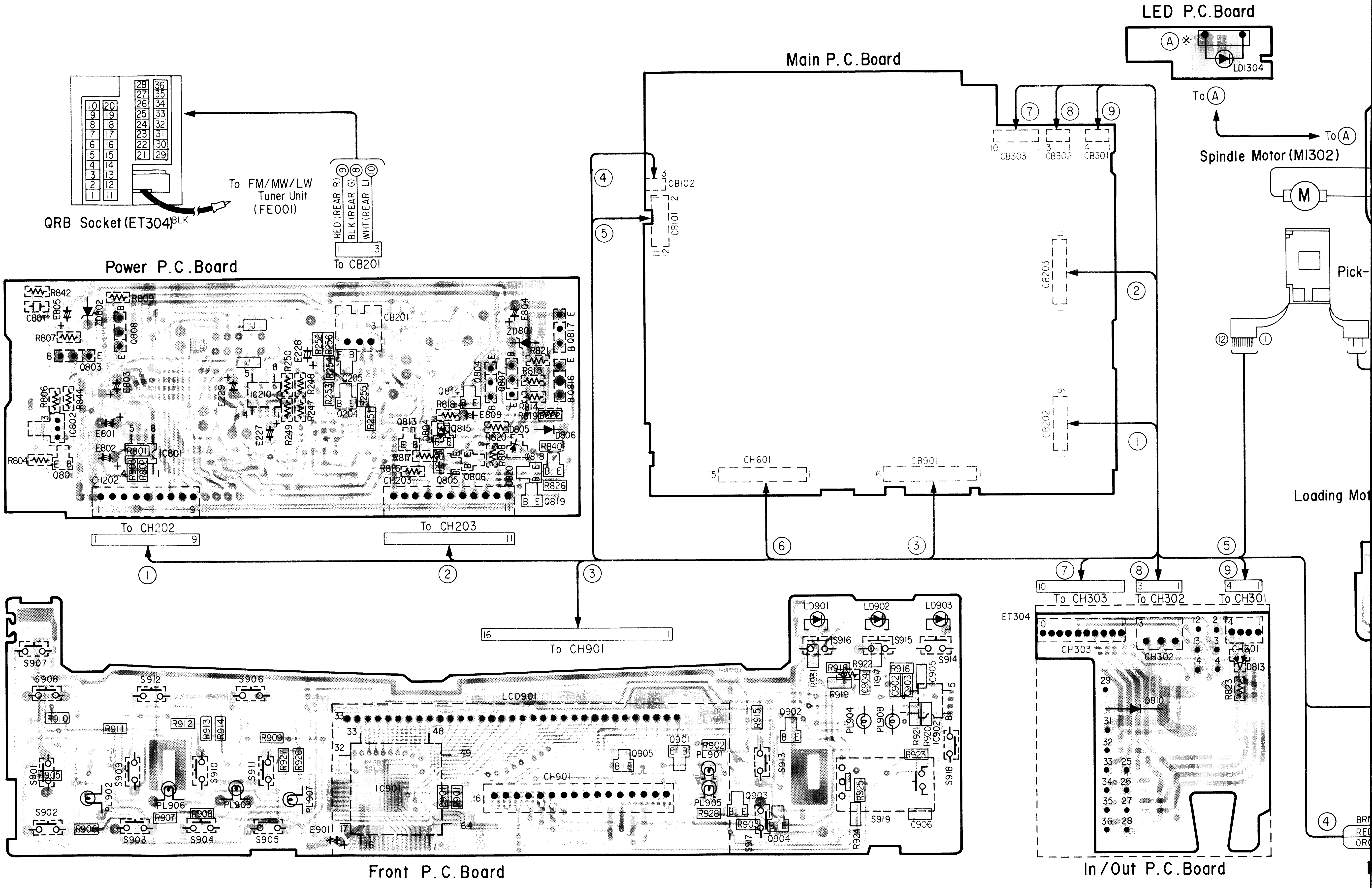

D001
C013
E011
C017
R057
R047
Q003
R017
R027
E010
Q102
R060
R062
E016
D004
R056
R048
FE001
C023
R051
C026
C028
Q010
ZD002
C030
E013
R012
C014
R015
C016
Q002
R032
R041
R042
C020
R044
R016
R028
R024
R023
R025
IC003
C032
C033
C035
C029
R061
Q011
R050
R054
R052
C027
R053
R096
D305
D304
L001
Q001
R086
R082
R080
R091
R087
Q017
R090
R088
R095
R093
R092
Q016
IC005
C042
C049
C048
R094
R031
R005
R029
R030
R019
C012
C004
C005
R018
R011
R021
R022
R010
R020
R035
R037
R038
R036
D007
Q006
Q004
C019
C038
C037
C039
R033
C024
C034
R049
Q013
C040
D005
Q014
R836
R837
Q829
Q825
C602
C309
R316
R317
R315
R318
Q302
Q303
R313
R310
D301
R007
R008
R009
R001
R002
R003
R004
C001
C010
C011
R067
R071
R065
R066
R034
Q005
C050
C041
R073
R075
R074
C036
R827
R841
Q824
Q015
Q103
R141
E101
R140
R145
C126
C127
R146
R147
E104
R176
R175
R207
Q201
ZD201
R099
C201
R209
R210
R203
R202
R201
Q106
Q105
R174
R177
R188
D102
D104
D103
R180
R191
Q102
Q110
R181
C140
C141
R189
C123
R179
R136
R137
R139
C122
C121
R183
R138
R124
C114
R120
R129
R125
R127
R128
R122
R167
R144
C117
C115
C116
R126
R107
R106
R108
R109
R110
R111
R112
C105
C106
R192
R119
C111
C107
R113
R115
R116
R114
C109
R117
R118
R194
C108
Q113
IC201
R172
C228
R169
R173
C103
C104
Q203
Q202
X101
R097
R098
R213
Q019
Q020
Q018
R219
R039
R040
R223
R221
R222
R227
C209
R225
R229
R614
C214
C603
C604
R232
R231
R216
R211
R212
R215
R217
R218
C205
C206
R214
R813
Q812
R811
R812
D807
D801
Q821
R829
Q810
Q809
R220
R226
R224
C210
R228
C212
R230
R810
Q811
R240
R239
R233
IC206
R234
R242
R302
R306
R304
R308
C304
C302
R307
R303
R246
C303
C301
R305
R245
R301
R243
R235
C215
IC301
IC302
R237
R622
R615
X601
R633
R239
R631
R630
R632
R832
R830
R831
R613
Q822
R608
R612
R601
R616
R617
R618
R619
R610
R628
R627
R626
R621
R620
R705
Q704
E704
Q116
R102
Q115
Q112
R103
R101
Q101
C101
C701
Q701
R701
L701
C702
Q702
Q703
R704
R703
R702
D701
L702
IC103
R156
R159
R151
R158
R149
IC104
R152
R155
R153
R161
R160
IC105
R166
C131
C132
R168
E109
Q108
Q605
D603
R609
D602
Q604
Q602
Q606
Q603
Q607
R605
R629
D808
Q823
R845
R603
R604
R602
D809
IC803
R835
R839
Q826
R930
E815

Orange Pattern : Component Side Pattern
Blue Pattern : Foil Side Pattern

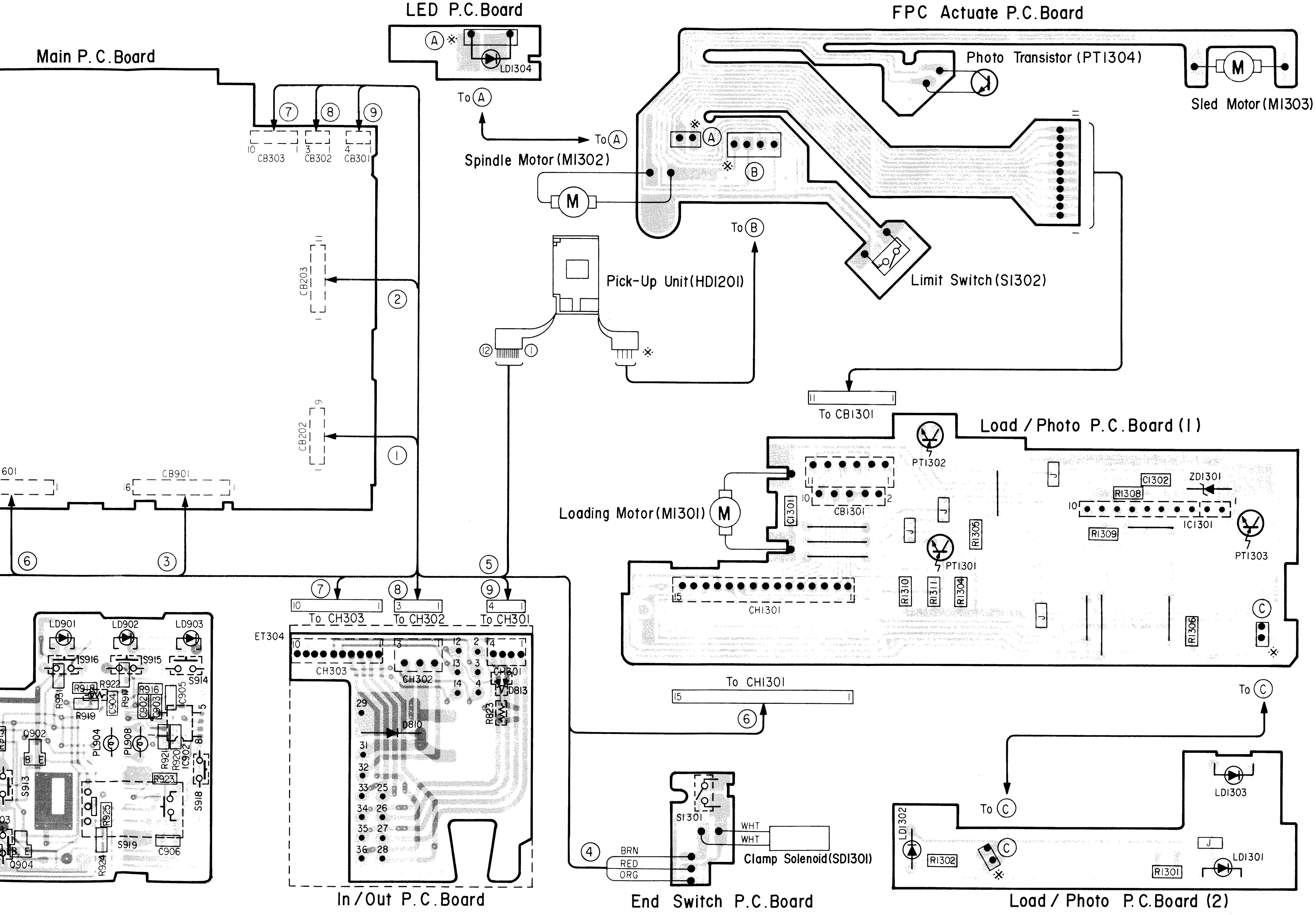
F -4- G H I J -5- K L M

Parts Layout on P.C. Boards and Wiring Diagram (2/2)

All P.C.Boards viewed from soldered side.


LED P.C.Board
LD1304
To Ⓐ
Spindle Motor (M1302)
M
Pick-
Loading Mot
Main P. C. Board
CB303
CB302
CB301
CB102
CB101
CB203
CB202
CH601
CB901
QRB Socket (ET304)
BLK
To FM/MW/LW Tuner Unit (FE001)
RED (REAR R)
BLK (REAR G)
WHT (REAR L)
To CB201
Power P.C .Board
CB201
IC210
IC801
IC802
CH202
CH203
To CH202
To CH203
To CH901
LCD901
IC901
CH901
Front P. C. Board
To CH303
To CH302
To CH301
ET304
CH303
CH302
CH301
D810
D813
In / Out P. C. Board
BRN
RED
ORG
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑫

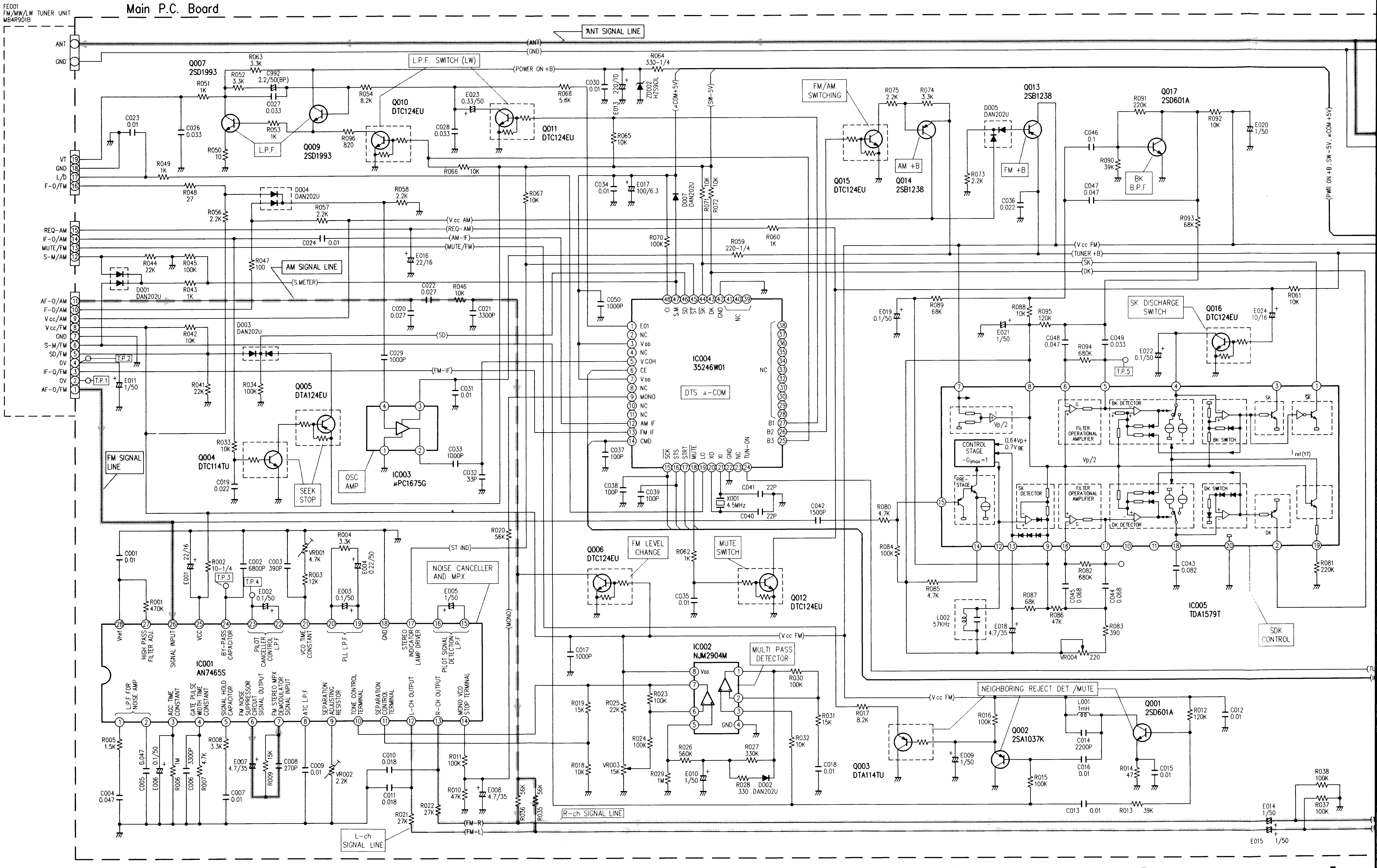
oards viewed from soldered side.

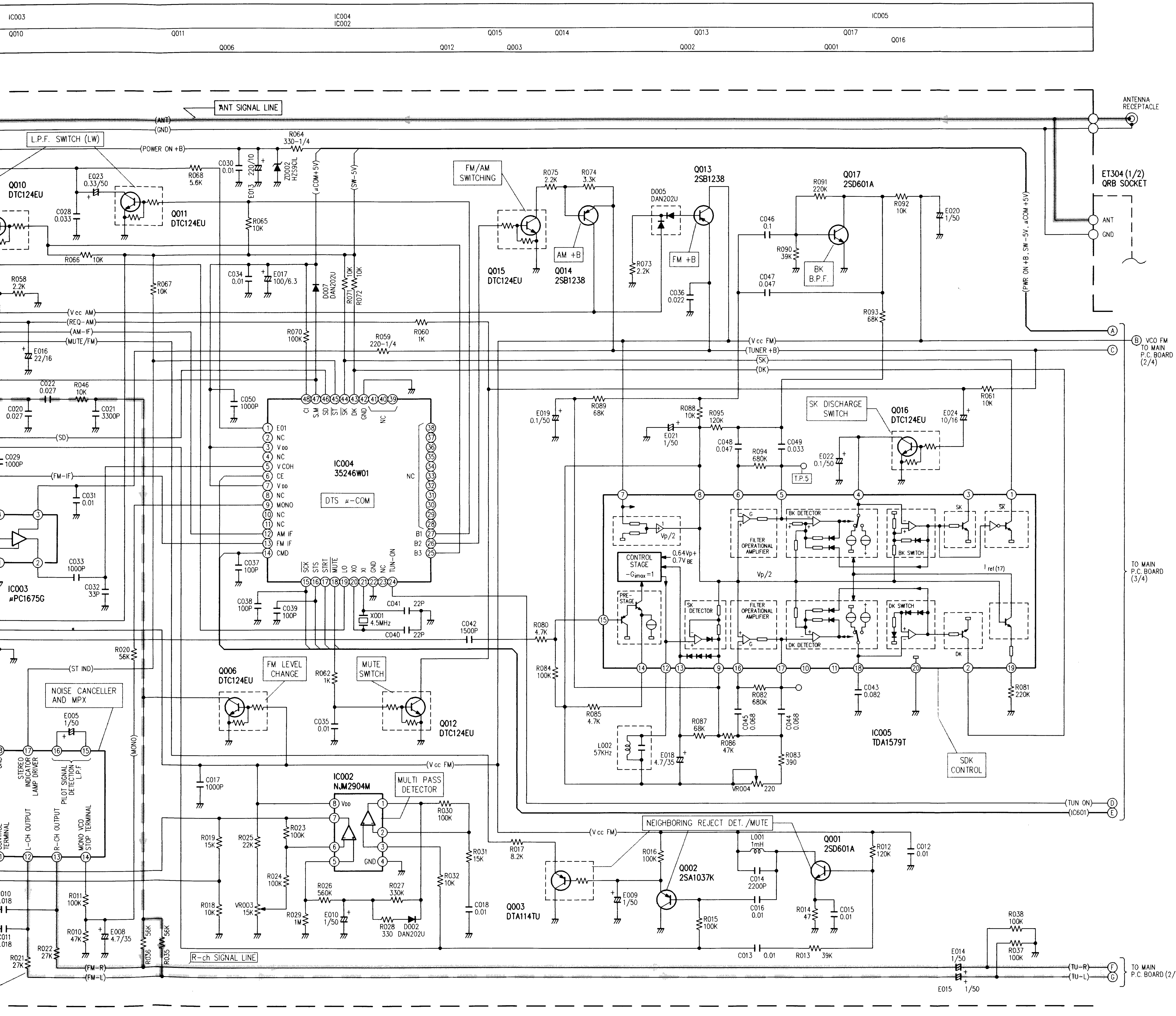

LED P.C.Board
LD1304
To Ⓐ
To Ⓐ
Spindle Motor (M1302)
FPC Actuate P.C.Board
Photo Transistor (PT1304)
Sled Motor (M1303)
Ⓑ
To Ⓑ
Limit Switch (S1302)
Pick-Up Unit (HD1201)
⑫
①
Main P. C. Board
⑦ ⑧ ⑨
CB303
CB302
CB301
CB203
CB202
CB901
601
② ① ⑥ ③ ⑤
To CB1301
Load / Photo P.C.Board (1)
PT1302
Loading Motor (M1301)
CB1301
C1301
C1302
R1308
ZD1301
IC1301
R1309
PT1303
PT1301
R1305
R1310
R1311
R1304
R1306
CH1301
Ⓒ
To CH1301
⑥
To Ⓒ
To Ⓒ
⑦ ⑧ ⑨
To CH303
To CH302
To CH301
ET304
CH303
CH302
CH301
D813
D810
R823
In / Out P.C.Board
LD901
LD902
LD903
S916
S915
S914
R918
R922
R917
R916
C904
C902
C903
C905
R919
R911
Q902
PL904
PL908
R921
R920
IC902
R923
S913
S918
R925
S919
C906
R924
Q904
④
BRN
RED
ORG
S1301
WHT
WHT
Clamp Solenoid (SD1301)
End Switch P.C.Board
LD1302
R1302
LD1303
LD1301
R1301
Load / Photo P.C.Board (2)

Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

Schematic Diagram (1/4)

IC	IC001	IC003	IC004 IC002	IC005
Transistor (Q)	Q007 Q004 Q009 Q005	Q010 Q011	Q006 Q012 Q015 Q003	Q014 Q013 Q002 Q017 Q001 Q016


FE001 FM/MW/LW TUNER UNIT MB4R901B
Main P.C. Board
ANT
GND
ANT SIGNAL LINE
(ANT)
(GND)
(POWER ON +B)
L.P.F. SWITCH (LW)
Q007 2SD1993
Q009 2SD1993
Q010 DTC124EU
Q011 DTC124EU
L.P.F.
VT
GND
L/D
F-O/FM
REQ-AM
IF-O/AM
MUTE/FM
S-M/AM
AF-O/AM
F-O/AM
Vcc/AM
Vcc/FM
GND
S-M/FM
SD/FM
0V
IF-O/FM
0V
AF-O/FM
T.P.1
T.P.2
AM SIGNAL LINE
(S.METER)
(Vcc AM)
(REQ-AM)
(AM-IF)
(MUTE/FM)
(SD)
(FM-IF)
D001 DAN202U
D003 DAN202U
D004 DAN202U
Q005 DTA124EU
Q004 DTC114TU
SEEK STOP
OSC AMP
IC003 μPC1675G
FM SIGNAL LINE
ZD002 HZS9.0L
(μCOM+5V)
(SW-5V)
D007 DAN202U
IC004 35246W01
DTS μ-COM
CI S.M SD ST SK DK GND NC
E01 NC VDD NC VCOH CE VDD NC MONO NC NC NC AM IF FM IF CMD
B1 B2 B3
SCK STS STRT MUTE LO XO XI GND NC TUN-ON
X001 4.5MHz
FM/AM SWITCHING
Q015 DTC124EU
Q014 2SB1238
AM +B
FM +B
D005 DAN202U
Q013 2SB1238
Q017 2SD601A
BK B.P.F.
(PWR ON+B, SW-5V, μCOM+5V)
(Vcc FM)
(TUNER +B)
(SK)
(DK)
SK DISCHARGE SWITCH
Q016 DTC124EU
T.P.5
Vp/2
CONTROL STAGE
PRE-STAGE
FILTER OPERATIONAL AMPLIFIER
BK DETECTOR
BK SWITCH
SK DETECTOR
DK DETECTOR
DK SWITCH
SK
SR
DK
Iref(17)
L002 57KHz
VR004 220
IC005 TDA1579T
SDK CONTROL
Q006 DTC124EU
FM LEVEL CHANGE
MUTE SWITCH
Q012 DTC124EU
(ST IND)
NOISE CANCELLER AND MPX
(MONO)
T.P.3
T.P.4
Vref
HIGH PASS FILTER ADJ.
SIGNAL INPUT
VCC
BY-PASS CAPACITOR
PILOT CANCELLER CONTROL L.P.F
VCO TIME CONSTANT
PLL L.P.F
GND
STEREO INDICATOR LAMP DRIVER
PILOT SIGNAL DETECTION L.P.F
IC001 AN7465S
L.P.F FOR NOISE AMP
AGC TIME CONSTANT
GATE PULSE WIDTH TIME CONSTANT
SIGNAL HOLD CAPACITOR
FM NOISE SUPPRESSOR CIRCUIT SIGNAL OUTPUT
FM STEREO MPX DEMODULATOR SIGNAL INPUT
ATC L.P.F
SEPARATION ADJUSTING RESISTOR
TONE CONTROL TERMINAL
SEPARATION CONTROL TERMINAL
L-CH OUTPUT
R-CH OUTPUT
MONO VCO STOP TERMINAL
VR001 4.7K
VR002 2.2K
VR003 15K
L-ch SIGNAL LINE
R-ch SIGNAL LINE
(FM-R)
(FM-L)
IC002 NJM2904M
MULTI PASS DETECTOR
D002 DAN202U
Q003 DTA114TU
NEIGHBORING REJECT DET./MUTE
Q002 2SA1037K
Q001 2SD601A
L001 1mH
1
2
3
4
5
A
B
C
D
E
F
G
H


IC003
IC004
IC002
IC005
Q010
Q011
Q006
Q012
Q015
Q003
Q014
Q013
Q002
Q017
Q001
Q016
ANT SIGNAL LINE
(ANT)
(GND)
L.P.F. SWITCH (LW)
(POWER ON +B)
R064 330-1/4
Q010 DTC124EU
E023 0.33/50
Q011 DTC124EU
C028 0.033
R068 5.6K
C030 0.01
E013 220/10
ZD002 HZS9C1L
(μCOM+5V)
(SW-5V)
R065 10K
R066 10K
R058 2.2K
R067 10K
C034 0.01
E017 100/6.3
D007 DAN202U
R071 10K
R072 10K
(Vcc AM)
(REQ-AM)
(AM-IF)
(MUTE/FM)
E016 22/16
R070 100K
R059 220-1/4
R060 1K
C022 0.027
R046 10K
C020 0.027
C021 3300P
C050 1000P
(SD)
C029 1000P
(FM-IF)
C031 0.01
IC004 35246W01
DTS μ-COM
NC
E01
V DD
V COH
CE
MONO
AM IF
FM IF
CMD
B1
B2
B3
C033 1000P
C032 33P
IC003 μPC1675G
C037 100P
C038 100P
C039 100P
C041 22P
X001 4.5MHz
C040 22P
C042 1500P
R020 56K
(ST IND)
NOISE CANCELLER AND MPX
E005 1/50
STEREO INDICATOR LAMP DRIVER
PILOT SIGNAL DETECTION L.P.F
L-CH OUTPUT
R-CH OUTPUT
MONO VCO STOP TERMINAL
Q006 DTC124EU
FM LEVEL CHANGE
R062 1K
MUTE SWITCH
C035 0.01
Q012 DTC124EU
(MONO)
(Vcc FM)
C017 1000P
IC002 NJM2904M
MULTI PASS DETECTOR
R030 100K
R019 15K
R025 22K
R023 100K
R024 100K
R018 10K
VR003 15K
R026 560K
R027 330K
R029 1M
E010 1/50
R028 330
D002 DAN202U
R031 15K
R032 10K
C018 0.01
R017 8.2K
R011 100K
R010 47K
E008 4.7/35
R022 27K
R021 27K
R036 56K
R035 56K
R-ch SIGNAL LINE
(FM-R)
(FM-L)
FM/AM SWITCHING
R075 2.2K
R074 3.3K
Q015 DTC124EU
AM +B
Q014 2SB1238
D005 DAN202U
Q013 2SB1238
R073 2.2K
FM +B
C036 0.022
R091 220K
Q017 2SD601A
R092 10K
E020 1/50
C046 0.1
R090 39K
BK B.P.F.
C047 0.047
R093 68K
(PWR ON +B, SW-5V, μCOM+5V)
ANTENNA RECEPTACLE
ET304 (1/2) QRB SOCKET
ANT
GND
(Vcc FM)
(TUNER +B)
(SK)
(DK)
VCO FM TO MAIN P.C. BOARD (2/4)
E019 0.1/50
R089 68K
R088 10K
R095 120K
E021 1/50
C048 0.047
R094 680K
C049 0.033
E022 0.1/50
T.P.5
SK DISCHARGE SWITCH
Q016 DTC124EU
E024 10/16
R061 10K
CONTROL STAGE
PRE-STAGE
FILTER OPERATIONAL AMPLIFIER
BK DETECTOR
BK SWITCH
SK DETECTOR
DK DETECTOR
DK SWITCH
SK
DK
Vp/2
R080 4.7K
R084 100K
R085 4.7K
R082 680K
C045 0.068
C044 0.068
C043 0.082
R081 220K
L002 57KHz
E018 4.7/35
R087 68K
R086 47K
R083 390
VR004 220
IC005 TDA1579T
SDK CONTROL
TO MAIN P.C. BOARD (3/4)
(TUN ON)
(IC601)
NEIGHBORING REJECT DET./MUTE
L001 1mH
Q001 2SD601A
R012 120K
C012 0.01
R016 100K
Q002 2SA1037K
C014 2200P
C016 0.01
R014 47
C015 0.01
Q003 DTA114TU
E009 1/50
R015 100K
C013 0.01
R013 39K
R038 100K
R037 100K
E014 1/50
E015 1/50
(TU-R)
(TU-L)
TO MAIN P.C. BOARD (2/4)

IC001

1	2.3V	15	2.3V
2	1.7V	16	2.3V
3	1.3V	17	4.8V
4	0V	18	0V
5	2.4V	19	2.4V
6	1.3V	20	2.4V
7	1.1V	21	1.3V
8	0V	22	2.1V
9	0.25V	23	2.1V
10	4.5V	24	2.4V
11	1.7V	25	8.8V
12	2.8V	26	2.3V
13	2.8V	27	1.6V
14	0V	28	2.4V

IC002

1	0.1V
2	0.2V
3	0.2V
4	0V
5	0.2V
6	0.8V
7	0V
8	8.6V

IC003

1	3.9V
2	0V
3	1.1V
4	4.8V

IC004

1	1.2V	16	PS	30	NC	46	4.5V
2	1.4V	17	PS	31	NC	47	4.6V
3	5.1V	18	5.1V	32	NC	48	4.6V
4	1.7V	19	0V	33	NC		
5	3.2V	20	PS	34	NC		
6	5.1V	21	PS	35	NC		
7	0V	22	0V	36	NC		
8	0V	23	0V	37	NC		
9	0V/5.1V	24	5.1V/0V	38	NC		
	ST/MONO		TUNER ON/OFF	39	NC		
10	0V			40	NC		
11	0V	25	4.7V	41	NC		
12	0V	26	0V	42	0V		
13	0V	27	1.1V	43	0V		
14	PS	28	NC	44	4.2V		
15	PS	29	NC	45	4.2V		

IC005

1	4.2V/0V	10	0V
	SDK ON/OFF	11	0.4V
		12	4.4V
2	0.1V	13	3.8V
3	0V	14	4.2V
4	0V	15	3.5V
5	4.3V	16	3.1V
6	3V	17	4.4V
7	4.7V	18	0.1V
8	4.3V	19	3.6V
9	4.4V	20	0V

	E	C	B
Q001	1.4V	8.1V	0.8V
Q002	0.2V	0V	0.7V
Q003	0.7V	0V	1.2V
Q004	0V	4.9V	0V
Q005	4.8V	0.2V	5V
Q006	8.6V	0V	0V
Q007	8V	8.6V	8.7V
Q009	0.6V	9.3V	1.2V
Q010	0V	0.6V	1V
Q011	1V	0V	0V
Q012	4.9V	0V	0V
Q013	8.7V	8.6V	8V
Q014	8.7V	0.5V	8.7V
Q015	0V	8.7V	0V
Q016	0.1V	0.1V	0V
Q017	0.6V	4.3V	0V

[Measuring Conditions]

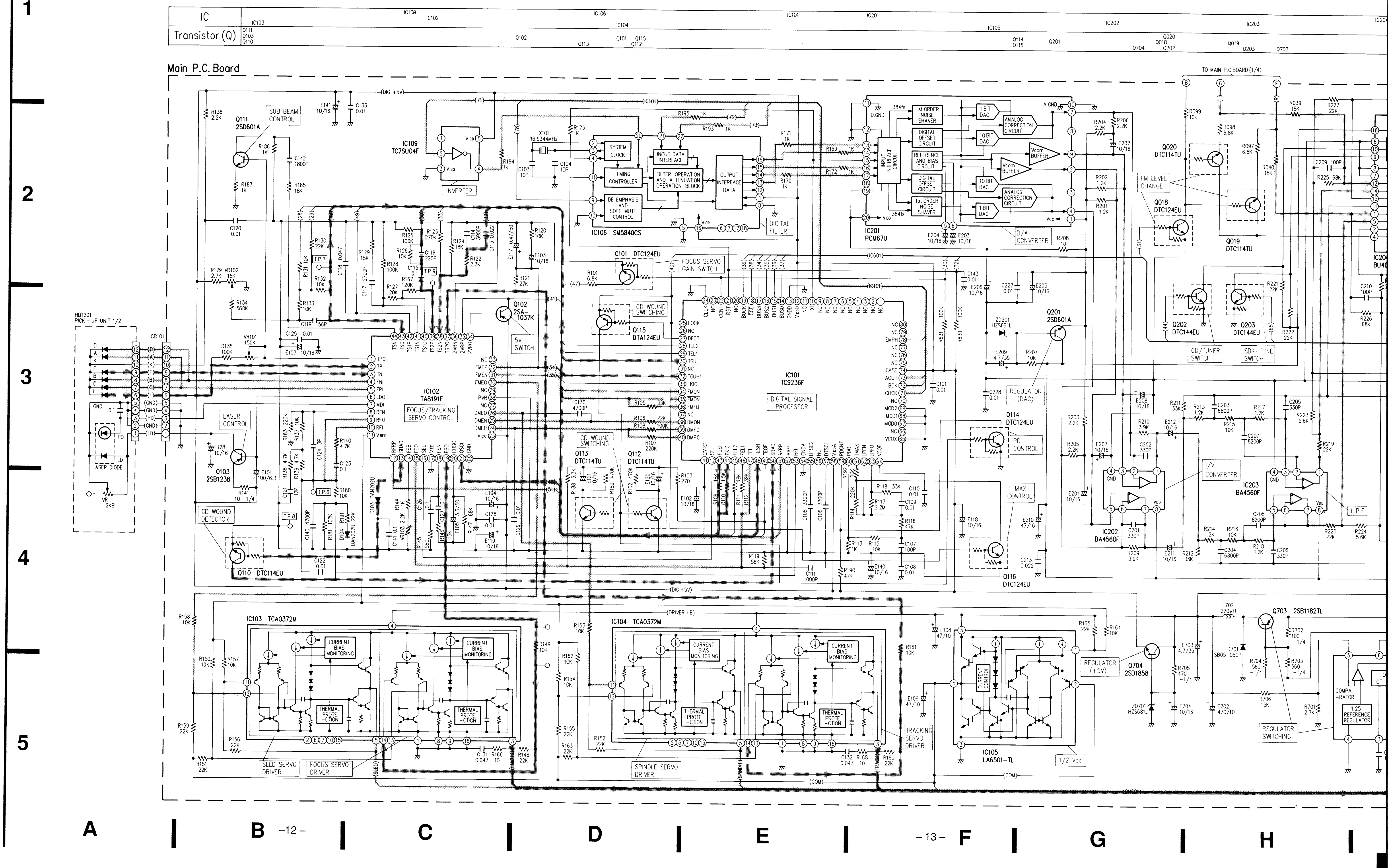
- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :

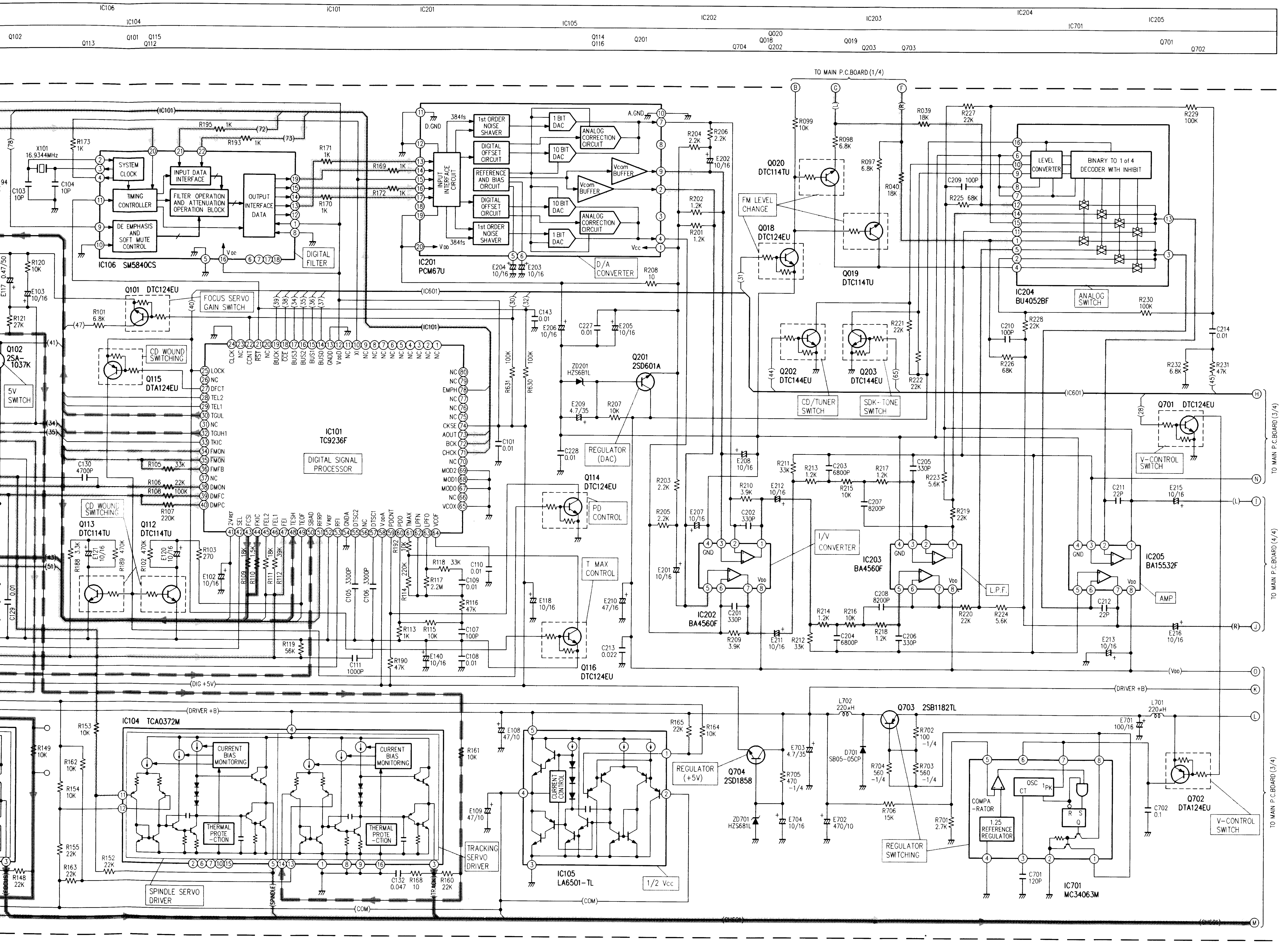
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (2/4)


1
2
3
4
5
A
B
C
D
E
F
G
H
IC
Transistor (Q)
IC103
IC108
IC102
IC106
IC104
IC101
IC201
IC105
IC202
IC203
Q111
Q103
Q110
Q102
Q113
Q101
Q115
Q112
Q114
Q116
Q201
Q704
Q020
Q018
Q202
Q019
Q203
Q703
Main P.C. Board
TO MAIN P.C.BOARD (1/4)
(DIG +5V)
SUB BEAM CONTROL
Q111 2SD601A
IC109 TC7SU04F
INVERTER
X101 16.9344MHz
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DE EMPHASIS AND SOFT MUTE CONTROL
DIGITAL FILTER
IC106 SM5840CS
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
INPUT INTERFACE CIRCUIT
1 BIT DAC
10 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
IC201 PCM67U
D/A CONVERTER
D.GND
A.GND
384fs
Q020 DTC114TU
Q018 DTC124EU
Q019 DTC114TU
FM LEVEL CHANGE
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
Q115 DTA124EU
CD WOUND SWITCHING
Q102 2SA-1037K
5V SWITCH
IC102 TA8191F
FOCUS/TRACKING SERVO CONTROL
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
HD1201 PICK-UP UNIT 1/2
CB101
LASER DIODE
PD
LD
VR 2KB
LASER CONTROL
Q103 2SB1238
CD WOUND DETECTOR
Q110 DTC114EU
T.P.6
T.P.7
T.P.8
T.P.9
Q113 DTC114TU
Q112 DTC114TU
CD WOUND SWITCHING
ZD201 HZS6B1L
Q201 2SD601A
REGULATOR (DAC)
Q114 DTC124EU
PD CONTROL
T MAX CONTROL
Q116 DTC124EU
IC202 BA4560F
I/V CONVERTER
IC203 BA4560F
L.P.F.
IC103 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE-CTION
SLED SERVO DRIVER
FOCUS SERVO DRIVER
(DIG +5V)
(DRIVER +B)
IC104 TCA0372M
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
(COM)
(SLED)
(FOCUS)
(SPINDLE)
(TRACKING)
IC105 LA6501-TL
CURRENT CONTROL
1/2 Vcc
REGULATOR (+5V)
Q704 2SD1858
ZD701 HZS6B1L
L702 220μH
Q703 2SB1182TL
D701 SB05-05CP
REGULATOR SWITCHING
COMPA-RATOR
1.25 REFERENCE REGULATOR


IC106
IC104
IC101
IC201
IC105
IC202
IC203
IC204
IC701
IC205
TO MAIN P.C.BOARD (1/4)
X101 16.9344MHz
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DE EMPHASIS AND SOFT MUTE CONTROL
DIGITAL FILTER
IC106 SM5840CS
INPUT INTERFACE CIRCUIT
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
1 BIT DAC
10 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
D/A CONVERTER
IC201 PCM67U
Q020 DTC114TU
Q018 DTC124EU
Q019 DTC114TU
FM LEVEL CHANGE
LEVEL CONVERTER
BINARY TO 1 of 4 DECODER WITH INHIBIT
ANALOG SWITCH
IC204 BU4052BF
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
Q102 2SA-1037K
5V SWITCH
CD WOUND SWITCHING
Q115 DTA124EU
Q201 2SD601A
ZD201 HZS6BL
REGULATOR (DAC)
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
Q701 DTC124EU
V-CONTROL SWITCH
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
Q114 DTC124EU
PD CONTROL
T MAX CONTROL
Q116 DTC124EU
Q113 DTC114TU
Q112 DTC114TU
I/V CONVERTER
IC202 BA4560F
IC203 BA4560F
L.P.F.
IC205 BA15532F
AMP
TO MAIN P.C.BOARD (3/4)
TO MAIN P.C.BOARD (4/4)
IC104 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE -CTION
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
CURRENT CONTROL
IC105 LA6501-TL
1/2 Vcc
REGULATOR (+5V)
Q704 2SD1858
ZD701 HZS6BL
L702 220μH
Q703 2SB1182TL
D701 SB05-05CP
REGULATOR SWITCHING
COMPA -RATOR
1.25 REFERENCE REGULATOR
OSC
IC701 MC34063M
L701 220μH
Q702 DTA124EU
(DIG +5V)
(DRIVER +B)
(COM)
(CHS01)

IC101

1	4.8V	17	PS	33	1.7V	49	2.2V	65	0V
2	4.8V	18	PS	34	2.2V	50	2.5V	66	PS
3		19	PS	35	2.2V	51	2.4V	67	0.1V
4	PS	20	PS	36	2.1V	52	2.2V	68	0.1V
5	PS	21	5V	37	5V	53	PS	69	0.1V
6	PS	22	0V	38	2.2V	54	0.1V	70	PS
7	PS	23	PS	39	PS	55	2.6V	71	PS
8	PS	24	0V	40	PS	56	2.6V	72	PS
9	5.1V	25	5.1V	41	4.3V	57	5.6V	73	PS
10	2.5V	26	4.8V	42	5.1V	58	5.1V	74	5.1V
11	2.4V	27	4.7V	43	2.6V	59	PS	75	0V
12	5.1V	28	2.2V	44	2.6V	60	PS	76	5V
13	0V	29	2.2V	45	2.2V	61	PS	77	5.1V
14	PS	30	2.2V	46	2.2V	62	2.3V	78	0V
15	PS	31	0.4V	47	2.2V	63	2.5V	79	5V
16	PS	32	0.4V	48	2.2V	64	1.6V	80	PS

IC102

1	1.7V	12	PS	23	5V	34	4.4V
2	2V	13	2.7V	24	PS	35	0V
3	2V	14	2V	25	2.1V	36	2.1V
4	2V	15	PS	26	PS	37	PS
5	2V	16	4.9V	27	PS	38	2V
6	3.9V	17	0V	28	2.1V	39	2V
7	0.1V	18	PS	29	2.1V	40	PS
8	2.1V	19	PS	30	2V	41	2V
9	PS	20	PS	31	2V	42	2.1V
10	PS	21	2.4V	32	2.1V	43	2.1V
11	2.1V	22	0V	33	PS	44	2.1V

IC103

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC104

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC105

1	2.6V
2	4V
3	0V
4	4V
5	8.5V

IC109

1	0.1V
2	0V
3	0.1V
4	0.2V

IC106

1	5.1V	12	PS
2	2.6V	13	PS
3	2.6V	14	PS
4	PS	15	PS
5	0V	16	5.1V
6	0V	17	0V
7	0V	18	0V
8	5.1V	19	PS
9	0V	20	PS
10	0V	21	PS
11	4.9V	22	PS

IC201

1	5V	11	0V
2	3.5V	12	0.3V
3	0.4V	13	PS
4	3.5V	14	PS
5	3.2V	15	PS
6	4.2V	16	PS
7	3.5V	17	PS
8	0.4V	18	0V
9	3.5V	19	0V
10	0V	20	4.9V

IC202

1	AUDIO
2	3.5V
3	3.5V
4	0V
5	3.5V
6	3.5V
7	AUDIO
8	8.3V

IC203

1	AUDIO
2	AUDIO
3	AUDIO
4	0V
5	AUDIO
6	AUDIO
7	AUDIO
8	8.3V

IC205

1	AD 4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	AUDIO
8	8.3V

IC204

1	AD 3.7V	9	0V
2	AD 4.1V	10	8V
3	4.2V	11	0V
4	0V	12	AD 3.7V
5	4.2V	13	4.2V
6	0V	14	4.2V
7	0V	15	AD 4V
8	0V	16	8.3V

IC701

1	13.7V
2	0V
3	0.2V
4	0V
5	0V
6	0V
7	0V
8	13.7V

	E	C	B		E	C	B
Q018	0V	6.4V	0V	Q113	0V	0V	0.1V
Q019	0V	4.6V	4.4V	Q115	0V	0V	0V
Q020	4.4V	4.6V	0V	Q201	5.7V	8.9V	5V
Q101	0V	0V	0V	Q202	5.1V	0V	0V
Q102	0V	0V	0V	Q203	3.5V	0V	0V
Q103	0V	0.1V	0V	Q701	0V	13.2V	0V
Q110	0V	0V	0V	Q702	13.2V	0V	13.8V
Q111	0V	0V	0V	Q703	13.7V	0V	13.7V
Q112	0V	0V	−0.4V	Q704	0V	0V	0V

[Measuring Conditions]

- * Power Supply Voltage : DC14V
- * Measuring Meter : Digital Multi Voltmeter
- * Measuring Point Reference : Between Ground
- * Measuring Conditions :

CD : Be playing back the 2nd Music
of the test CD (YEDS − 18).
TUNER : No signal input
FM : 98.1 MHz
MW : 999 kHz
LW : 216 kHz

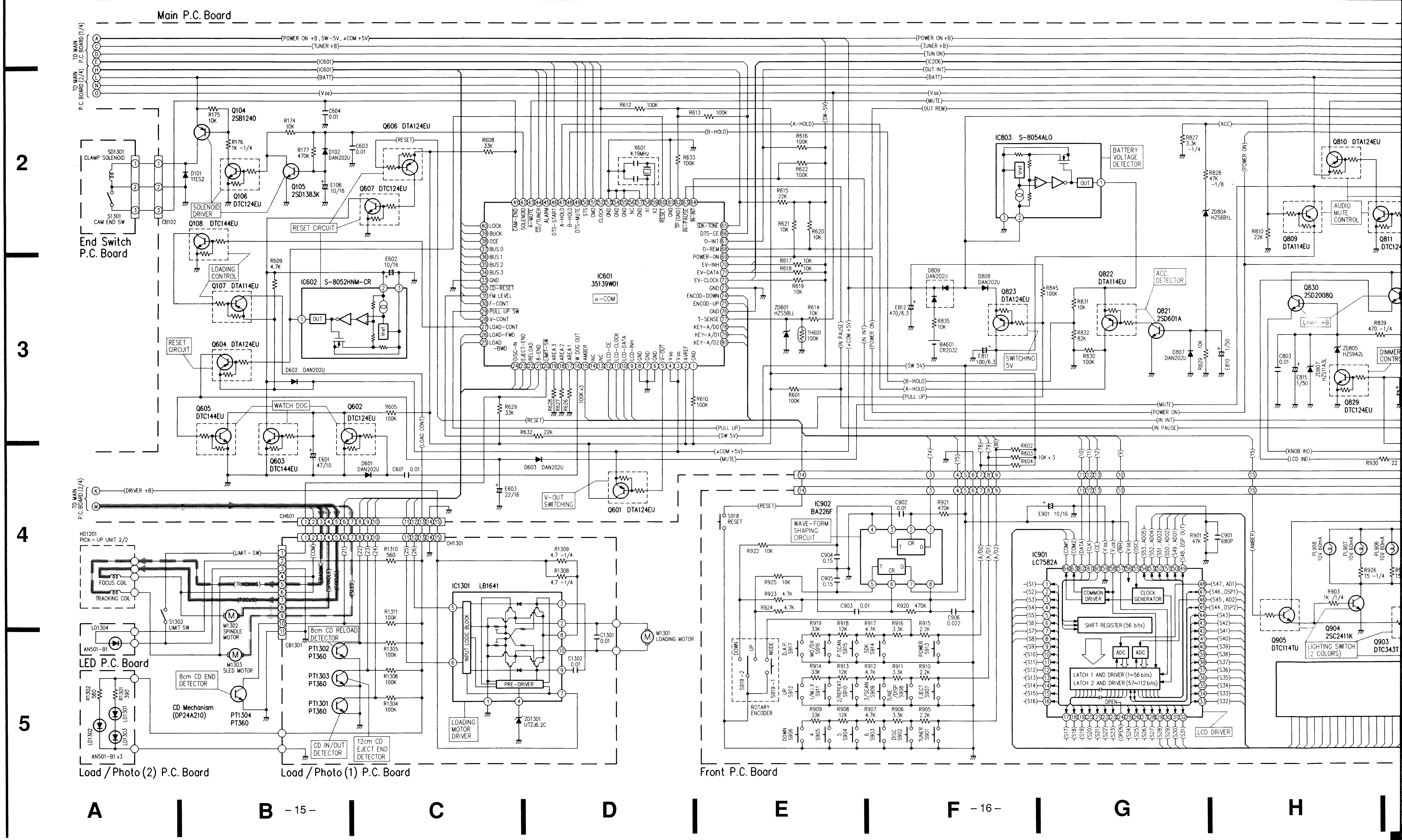
CD Signal Line (Digital)
L−ch Signal Line
R−ch Signal Line
Focus Servo Signal Line
Tracking Servo Signal Line
Spindle Servo Signal Line
Sled Servo Signal Line

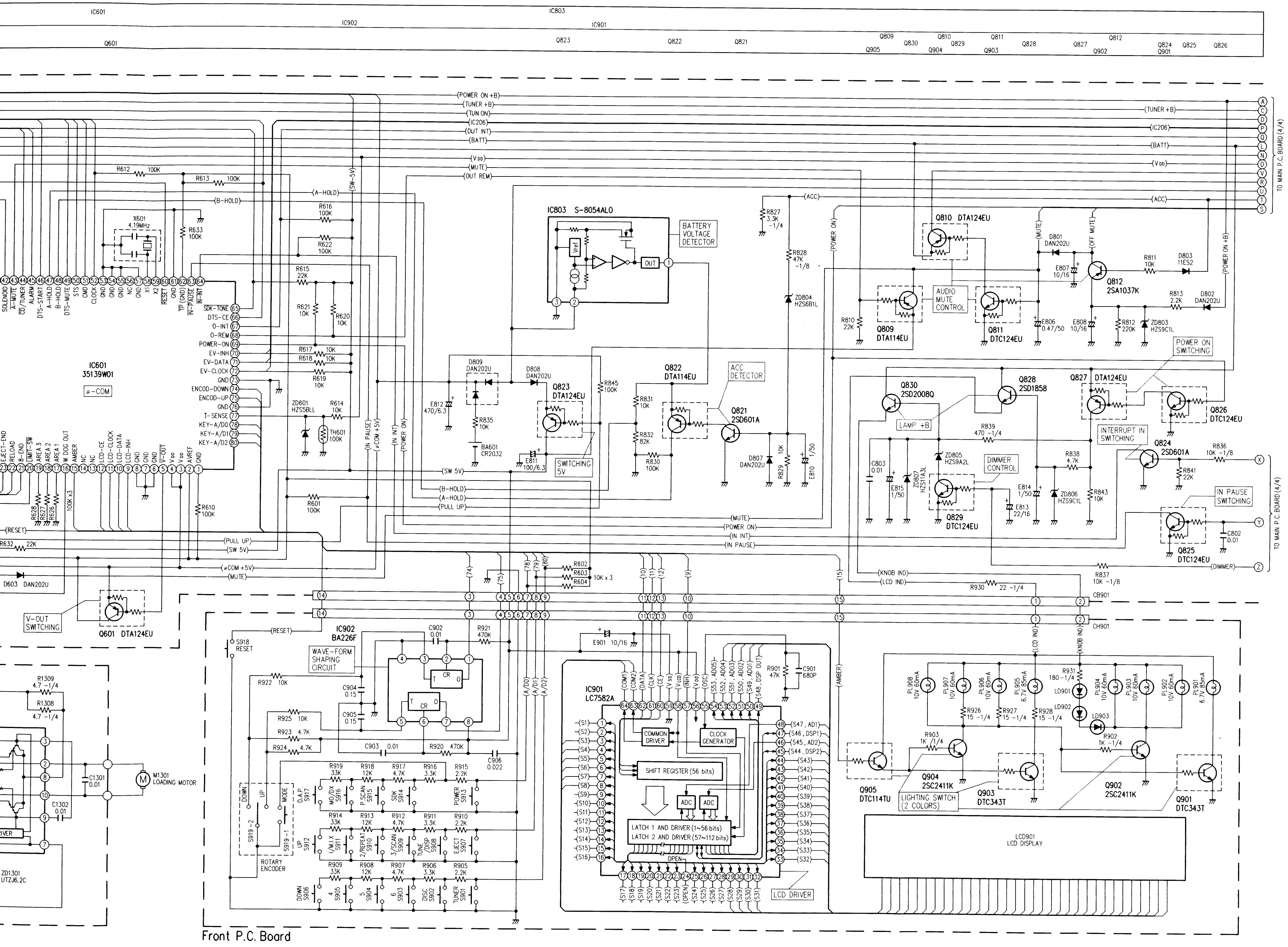
NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (3/4)

IC	IC602 IC1301 IC601 IC902 IC803 IC901
Transistor (Q),(PT)	Q108 Q605 Q107 Q604 Q104 Q106 PT1304 Q603 Q105 PT1302 PT1303 PT1301 Q602 Q607 Q606 Q601 Q823 Q822 Q821 Q809 Q905 Q830 Q810 Q904 Q829 Q811 Q903


Main P.C. Board
TO MAIN P.C. BOARD (1/4)
TO MAIN P.C. BOARD (2/4)
(POWER ON +B, SW-5V, μCOM +5V)
(TUNER +B)
(IC601)
(BATT)
(VDD)
(POWER ON +B)
(TUN ON)
(IC206)
(OUT INT)
(MUTE)
(OUT REM)
(ACC)
End Switch P.C. Board
SD1301 CLAMP SOLENOID
S1301 CAM END SW
CB102
Q104 2SB1240
Q105 2SD1383K
Q106 DTC124EU
SOLENOID DRIVER
Q108 DTC144EU
LOADING CONTROL
Q107 DTA114EU
RESET CIRCUIT
Q604 DTA124EU
Q605 DTC144EU
WATCH DOG
Q603 DTC144EU
Q602 DTC124EU
Q606 DTA124EU
Q607 DTC124EU
IC602 S-8052HNM-CR
X601 4.19MHz
IC601 35139W01 μ-COM
V-OUT SWITCHING
Q601 DTA124EU
(DRIVER +B)
CH601
CH1301
HD1201 PICK-UP UNIT 2/2
FOCUS COIL
TRACKING COIL
S1302 LIMIT SW
M1302 SPINDLE MOTOR
M1303 SLED MOTOR
LED P.C. Board
LD1304
AN501-B1
8cm CD END DETECTOR
PT1304 PT360
CD Mechanism (DP24A210)
AN501-B1 x3
Load / Photo (2) P.C. Board
CB1301
8cm CD RELOAD DETECTOR
PT1302 PT360
PT1303 PT360
PT1301 PT360
CD IN/OUT DETECTOR
12cm CD EJECT END DETECTOR
Load / Photo (1) P.C. Board
IC1301 LB1641
INPUT LOGIC BLOCK
PRE-DRIVER
LOADING MOTOR DRIVER
ZD1301 UTZJ6.2C
M1301 LOADING MOTOR
IC902 BA226F
WAVE-FORM SHAPING CIRCUIT
S918 RESET
ROTARY ENCODER
D.A.P. S917
MO/DX S916
P.SCAN S915
SDX S914
POWER S913
I/MIX S911
2/REPEAT S910
3/SCAN S909
TUNE/DISP S908
EJECT S907
DOWN S906
4 S905
5 S904
6 S903
DISC S902
TUNER S901
Front P.C. Board
IC901 LC7582A
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
LCD DRIVER
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
D809 DAN202U
D808 DAN202U
Q823 DTA124EU
SWITCHING 5V
BA601 CR2032
Q822 DTA114EU
ACC DETECTOR
Q821 2SD601A
ZD804 HZS6B1L
Q809 DTA114EU
AUDIO MUTE CONTROL
Q810 DTA124EU
Q811 DTC124
Q830 2SD2008Q
LAMP +B
ZD805 HZS9A2L
Q829 DTC124EU
DIMMER CONTROL
(KNOB IND)
(LCD IND)
PL908 10V 60mA
PL907 10V 60mA
PL906 10V 60mA
Q904 2SC2411K
LIGHTING SWITCH (2 COLORS)
Q905 DTC114TU
Q903 DTC343T
1
2
3
4
5
A
B
C
D
E
F
G
H


IC601
IC902
IC803
IC901
Q601
Q823
Q822
Q821
Q809
Q905
Q830
Q810
Q904
Q829
Q811
Q903
Q828
Q827
Q812
Q902
Q824
Q901
Q825
Q826
IC601
35139W01
μ-COM
X601
4.19MHz
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
Q810 DTA124EU
AUDIO MUTE CONTROL
Q809 DTA114EU
Q811 DTC124EU
Q812 2SA1037K
POWER ON SWITCHING
Q823 DTA124EU
SWITCHING 5V
Q822 DTA114EU
ACC DETECTOR
Q821 2SD601A
Q830 2SD2008Q
Q828 2SD1858
Q827 DTA124EU
Q826 DTC124EU
LAMP +B
DIMMER CONTROL
Q829 DTC124EU
INTERRUPT IN SWITCHING
Q824 2SD601A
IN PAUSE SWITCHING
Q825 DTC124EU
TO MAIN P.C. BOARD (4/4)
V-OUT SWITCHING
Q601 DTA124EU
IC902 BA226F
WAVE-FORM SHAPING CIRCUIT
IC901 LC7582A
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
ADC
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
LCD DRIVER
ROTARY ENCODER
M1301 LOADING MOTOR
ZD1301 UTZJ6.2C
LIGHTING SWITCH (2 COLORS)
Q905 DTC114TU
Q904 2SC2411K
Q903 DTC343T
Q902 2SC2411K
Q901 DTC343T
LCD901 LCD DISPLAY
CB901
CH901
Front P.C. Board

IC601

1	4.6V/0V	18	5V	33	0V	42	0V	59	PS	68	0V/5V
2	5.1V/0V	19	5V	34	PS	43	5.1V/0V	60	5V		O-REM OFF/ON
3	5V/6V	20	0V/4.6V		CD	44	5.1V/0V	61	0V		
4	5V/6V	21	0V	35	PS	45	0V/PS	62	5V	69	2.8V/0V
5	0V/5.3V	22	0V		CD	46	PS	63	5V/0V		POW ON/OFF
6	0V	23	0V	36	PS	47	5.4V/0V		IN-INT OFF/ON	70	PS
7	0V	24	0V		CD	48	4.8V/0V			71	PS
8	0V	25	0V	37	PS	49	PS	64	5V/0V	72	PS
9	5.1V	26	0V		CD	50	PS		IN-PAUSE OFF/ON	73	0V
10	PS	27	5V	38	PS	51	PS			74	PS
11	PS	28	0V/5.1V		CD	52	PS	65	5V/0V	75	PS
12	PS		TUNER/CD	39	PS	53	0V		SDK-TONE OFF/ON	76	0V
13	0V	29	0V		CD	54	0V			77	5V
14	0V	30	0V	40	5.1V	55	0V	66	PS	78	5V
15	5.1V/0V	31	5.1V/0V		CD	56	0V	67	0V/5V	79	5V
16	PS	32	0V/5V	41	0V/5.1V	57	0V		O-INT OFF/ON	80	5V
17	5V		TUNER/CD		DISC IN/OUT	58	PS				

IC602

1	5.1V
2	5.1V
3	0V

IC803

1	5.4V
2	5.8V
3	0V

IC901

1	NC	17	NC	33	PS	49	PS
2	NC	18	NC	34	PS	50	PS
3	PS	19	NC	35	PS	51	PS
4	PS	20	NC	36	PS	52	PS
5	PS	21	NC	37	PS	53	PS
6	PS	22	NC	38	PS	54	NC
7	PS	23	NC	39	PS	55	0V
8	PS	24	NC	40	PS	56	5V
9	NC	25	NC	41	PS	57	PS
10	NC	26	NC	42	PS	58	5V
11	NC	27	NC	43	PS	59	PS
12	NC	28	NC	44	PS	60	0V
13	NC	29	PS	45	PS	61	PS
14	NC	30	PS	46	PS	62	PS
15	NC	31	PS	47	PS	63	PS
16	NC	32	PS	48	PS	64	PS

IC902

1	0.1V
2	0V
3	0V
4	0V
5	0V
6	0V
7	0.1V
8	0V

IC1301

1	0V
2	6V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	0V
10	6V

	E	C	B		E	C	B
Q104	14V	0V	0V	Q821	0.6V	0V	0V
Q105	0V	0V	0V	Q822	0V	5.4V	5.4V
Q106	0V	13.6V	0V	Q823	0.2V	5.2V	5.2V
Q107	5.1V	-0.1V	5.1V	Q824	0V	5V	0V
Q108	0V	5.1V	0V	Q825	0V	4.9V	0V
Q601	0V	5.1V	5.1V	Q826	2.7V	0V	0V
Q602	0V	5.1V	0V	Q827	14V	0V	14V
Q603	0.2V	0.1V	0V	Q828	11.6V	13.8V	13.3V
Q604	5.2V	0V	5.1V	Q829	0V	2V	0V
Q605	0V	0.1V	0V	Q830	9.3V	13.8V	10V
Q606	5.1V	0V	4.9V	Q901	0V	11.3V	0.1V
Q607	0V	4.9V	0V	Q902	0V	11.3V	0.1V
Q809	5.1V	0V	5.1V	Q903	0.1V	11.2V	0.1V
Q810	13.7V	3.3V	13.7V	Q904	0.1V	9.1V	0.1V
Q811	0V	13.7V	0V	Q905	9.1V	0.1V	0.1V
Q812	8.5V	0.1V	9.1V				

[Measuring Conditions]

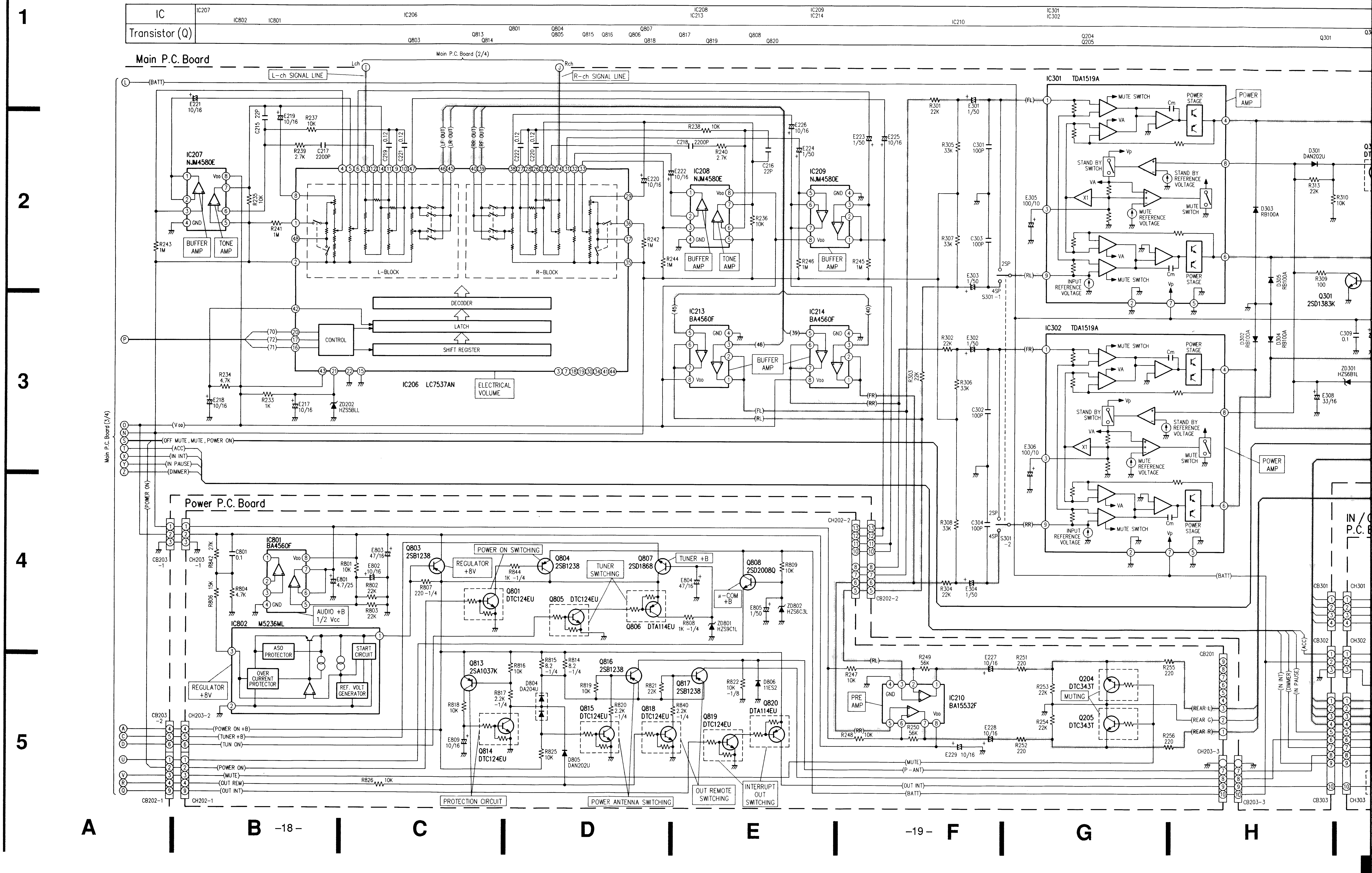
- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

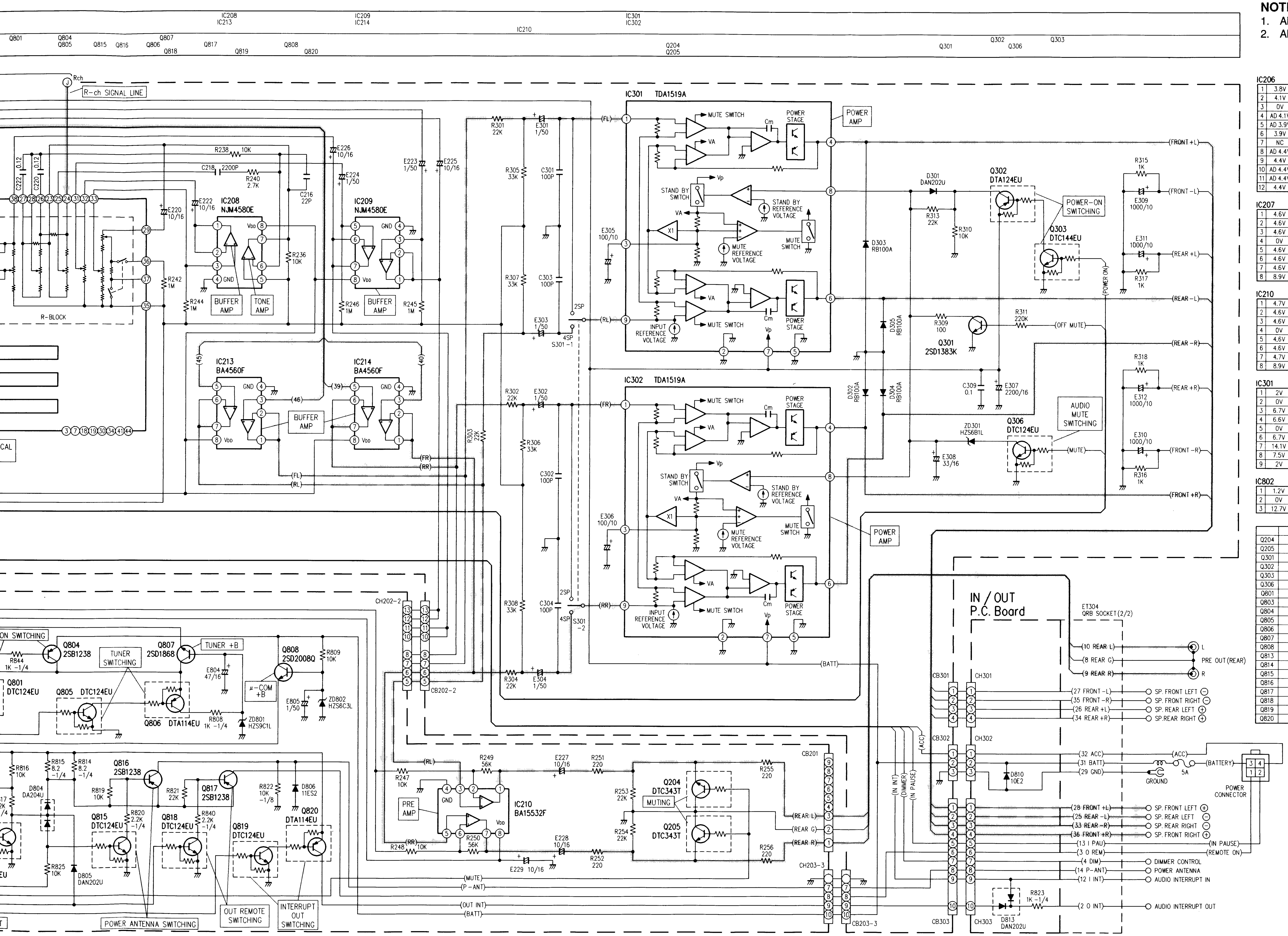
▬▬ Focus Servo Signal Line
▬ ▬ Tracking Servo Signal Line
▬▬ Spindle Servo Signal Line
▬ ▬ Sled Servo Signal Line

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1{,}000{,}000}$

Schematic Diagram (4/4)


IC
Transistor (Q)
IC207
IC802
IC801
IC206
IC208
IC213
IC209
IC214
IC210
IC301
IC302
Q803
Q813
Q814
Q801
Q804
Q805
Q815
Q816
Q806
Q807
Q818
Q817
Q819
Q808
Q820
Q204
Q205
Q301
Main P.C. Board
Main P.C. Board (2/4)
Lch
Rch
L-ch SIGNAL LINE
R-ch SIGNAL LINE
(BATT)
IC207 NJM4580E
BUFFER AMP
TONE AMP
IC206 LC7537AN
L-BLOCK
R-BLOCK
DECODER
LATCH
SHIFT REGISTER
CONTROL
ELECTRICAL VOLUME
IC208 NJM4580E
IC209 NJM4580E
IC213 BA4560F
IC214 BA4560F
BUFFER AMP
ZD202 HZS5BLL
(V DD)
(OFF MUTE, MUTE, POWER ON)
(ACC)
(IN INT)
(IN PAUSE)
(DIMMER)
Main P.C. Board (3/4)
(POWER ON)
Power P.C. Board
IC801 BA4560F
AUDIO +B 1/2 Vcc
IC802 M5236ML
ASO PROTECTOR
OVER CURRENT PROTECTOR
START CIRCUIT
REF. VOLT GENERATOR
REGULATOR +8V
Q803 2SB1238
Q804 2SB1238
Q807 2SD1868
Q808 2SD2008Q
Q801 DTC124EU
Q805 DTC124EU
Q806 DTA114EU
POWER ON SWITCHING
TUNER SWITCHING
TUNER +B
μ-COM +B
ZD801 HZS9C1L
ZD802 HZS6C3L
Q813 2SA1037K
Q814 DTC124EU
Q816 2SB1238
Q815 DTC124EU
Q818 DTC124EU
Q817 2SB1238
Q819 DTC124EU
Q820 DTA114EU
D804 DA204U
D805 DAN202U
D806 11ES2
PROTECTION CIRCUIT
POWER ANTENNA SWITCHING
OUT REMOTE SWITCHING
INTERRUPT OUT SWITCHING
(POWER ON+B)
(TUNER+B)
(TUN ON)
(POWER ON)
(MUTE)
(OUT REM)
(OUT INT)
CB202-1
CH202-1
CB203-1
CH203-1
CB203-2
CH203-2
CH202-2
CB202-2
IC210 BA15532F
PRE AMP
Q204 DTC343T
Q205 DTC343T
MUTING
(REAR L)
(REAR G)
(REAR R)
(P-ANT)
(BATT)
CB201
CH203-3
CB203-3
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
INPUT REFERENCE VOLTAGE
S301-1
S301-2
2SP
4SP
(FL)
(RL)
(FR)
(RR)
D301 DAN202U
D303 RB100A
D302 RB100A
D304 RB100A
D305 RB100A
Q301 2SD1383K
ZD301 HZS6B1L
IN/O P.C. B
CB301
CH301
CB302
CH302
CB303
CH303
A
B
C
D
E
F
G
H
1
2
3
4
5


IC208
IC213
IC209
IC214
IC210
IC301
IC302
Q801
Q804
Q805
Q815
Q816
Q806
Q807
Q818
Q817
Q819
Q808
Q820
Q204
Q205
Q301
Q302
Q306
Q303
Rch
R-ch SIGNAL LINE
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
VA
Cm
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
MUTE SWITCH
INPUT REFERENCE VOLTAGE
X1
Vp
IC208 NJM4580E
IC209 NJM4580E
IC213 BA4560F
IC214 BA4560F
BUFFER AMP
TONE AMP
R-BLOCK
R238 10K
C218 2200P
R240 2.7K
C216 22P
E226 10/16
E224 1/50
E223 1/50
E225 10/16
C222 0.12
C220 0.12
E220 10/16
E222 10/16
R236 10K
R242 1M
R244 1M
R246 1M
R245 1M
R301 22K
E301 1/50
R305 33K
C301 100P
R307 33K
C303 100P
E303 1/50
2SP
4SP
S301-1
S301-2
E305 100/10
E306 100/10
R302 22K
E302 1/50
R303 22K
R306 33K
C302 100P
R308 33K
C304 100P
R304 22K
E304 1/50
(FL)
(RL)
(FR)
(RR)
(FRONT+L)
(FRONT-L)
(REAR+L)
(REAR-L)
(REAR-R)
(REAR+R)
(FRONT-R)
(FRONT+R)
(OFF MUTE)
(MUTE)
(BATT)
(POWER ON)
D301 DAN202U
R313 22K
R310 10K
D303 RB100A
D305 RB100A
D302 RB100A
D304 RB100A
Q302 DTA124EU
Q303 DTC144EU
POWER-ON SWITCHING
R309 100
Q301 2SD1383K
R311 220K
C309 0.1
E307 2200/16
ZD301 HZS6B1L
E308 33/16
Q306 DTC124EU
AUDIO MUTE SWITCHING
R315 1K
E309 1000/10
E311 1000/10
R317 1K
R318 1K
E312 1000/10
E310 1000/10
R316 1K
CH202-2
CB202-2
ON SWITCHING
Q804 2SB1238
R844 1K -1/4
TUNER SWITCHING
Q807 2SD1868
TUNER +B
E804 47/16
Q808 2SD2008Q
R809 10K
μ-COM +B
E805 1/50
ZD802 HZS6C3L
Q801 DTC124EU
Q805 DTC124EU
Q806 DTA114EU
R808 1K -1/4
ZD801 HZS9C1L
R816 10K
R815 8.2 -1/4
R814 8.2 -1/4
D804 DA204U
Q816 2SB1238
R819 10K
R821 22K
Q817 2SB1238
R822 10K -1/8
D806 11ES2
Q815 DTC124EU
R820 2.2K -1/4
Q818 DTC124EU
R840 2.2K -1/4
Q819 DTC124EU
Q820 DTA114EU
R825 10K
D805 DAN202U
POWER ANTENNA SWITCHING
OUT REMOTE SWITCHING
INTERRUPT OUT SWITCHING
(RL)
R247 10K
R249 56K
E227 10/16
R251 220
PRE AMP
GND
IC210 BA15532F
Vdd
R250 56K
R248 10K
(RR)
E228 10/16
E229 10/16
R252 220
R253 22K
R254 22K
Q204 DTC343T
MUTING
Q205 DTC343T
R255 220
R256 220
(REAR L)
(REAR G)
(REAR R)
CB201
CH203-3
CB203-3
(MUTE)
(P-ANT)
(OUT INT)
(BATT)
(IN INT)
(DIMMER)
(IN PAUSE)
(ACC)
IN / OUT P.C. Board
ET304 QRB SOCKET (2/2)
(10 REAR L)
(8 REAR G)
(9 REAR R)
L
PRE OUT (REAR)
R
CB301
CH301
(27 FRONT -L)
(35 FRONT -R)
(26 REAR +L)
(34 REAR +R)
SP. FRONT LEFT ⊖
SP. FRONT RIGHT ⊖
SP. REAR LEFT ⊕
SP.REAR RIGHT ⊕
CB302
CH302
(32 ACC)
(31 BATT)
(29 GND)
(ACC)
5A
(BATTERY)
GROUND
D810 10E2
POWER CONNECTOR
(28 FRONT +L)
(25 REAR -L)
(33 REAR -R)
(36 FRONT +R)
(13 I PAU)
(3 0 REM)
(4 DIM)
(14 P-ANT)
(12 I INT)
SP. FRONT LEFT ⊕
SP. REAR LEFT ⊖
SP. REAR RIGHT ⊖
SP. FRONT RIGHT ⊕
(IN PAUSE)
(REMOTE ON)
DIMMER CONTROL
POWER ANTENNA
AUDIO INTERRUPT IN
R823 1K -1/4
(2 0 INT)
AUDIO INTERRUPT OUT
CB303
CH303
D813 DAN202U
CAL

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

IC206

1	3.8V	13	AD 4.4V	25	AD 4.4V	37	4.4V
2	4.1V	14	AD 4.4V	26	4.4V	38	AD 4.4V
3	0V	15	0V	27	AD 4.4V	39	AD 4.4V
4	AD 4.1V	16	0V	28	4.4V	40	AD 4.4V
5	AD 3.9V	17	0V	29	AD 4.4V	41	NC
6	3.9V	18	0V	30	NC	42	8.3V
7	NC	19	8.3V	31	AD 4.4V	43	8.3V
8	AD 4.4V	20	0V	32	AD 4.4V	44	NC
9	4.4V	21	5V	33	AD 4.4V	45	AD 4.4V
10	AD 4.4V	22	5.1V	34	NC	46	AD 4.4V
11	AD 4.4V	23	0V	35	4.4V	47	AD 4.4V
12	4.4V	24	AD 4.4V	36	3.7V	48	NC

IC207

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC208

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC209

1	4.7V
2	4.7V
3	4.3V
4	0V
5	4.3V
6	4.7V
7	4.7V
8	8.9V

IC210

1	4.7V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.7V
8	8.9V

IC213

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC214

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC301

1	2V
2	0V
3	6.7V
4	6.6V
5	0V
6	6.7V
7	14.1V
8	7.5V
9	2V

IC302

1	2V
2	0V
3	6.7V
4	6.7V
5	0V
6	6.7V
7	14.1V
8	7.5V
8	2V

IC801

1	0V
2	0V
3	0V
4	0V
5	4.1V
6	4.1V
7	4.1V
8	8.3V

IC802

1	1.2V
2	0V
3	12.7V

	E	C	B
Q204	13.7V	0V	0V
Q205	13.7V	0V	0V
Q301	0V	7.4V	0.3V
Q302	0V	13.7V	13.8V
Q303	2.7V	0V	0V
Q306	5V	0V	0V
Q801	0V	0V	2.7V
Q803	13.1V	8.9V	12.5V
Q804	13.8V	13.7V	13.1V
Q805	0V	0V	0V
Q806	0V	0V	0V
Q807	9.3V	13.7V	8.7V
Q808	5.8V	13.8V	6.4V
Q813	0V		
Q814	0V	13.7V	0V
Q815	9.7V	0V	0V
Q816	13.7V	13.7V	13.1V
Q817	13.7V	13.7V	13V
Q818	13.6V	0.1V	0V
Q819	0V	13.6V	0V
Q820	13.6V	0V	13.6V

[Measuring Conditions]

- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

Electrical Parts List

Note : The parts is not mentioned, refer to the Service Manual 7803M (68P32124W02).

Main P. C. Board

IC's

Symbol No.	Part No.	Description
IC601	51T35139W01	35139W01
IC803	51T95014F16	S-8054ALO

Transistors

Symbol No.	Part No.	Description
Q103	48T84234F03	2SB1238
Q104	48T84238F03	2SB1240
Q114	48T94606F03	CP., DTC124EU
Q116	48T94606F03	CP., DTC124EU
Q703	48T35437W01	2SB1182TL

Diodes

Symbol No.	Part No.	Description
D302	48T25664W02	RB100A
D303	48T25664W02	RB100A
D304	48T25664W02	RB100A
D305	48T25664W02	RB100A
D603	48T94608F03	CP., DAN202U
ZD805	48T25766W20	Zener, HZS9A2L
ZD807	48T25766W29	Zener, HZS11A3L

Coil

Symbol No.	Part No.	Description
L002	24T84175F51	SDK (57KHz)

Capacitors

Symbol No.	Part No.	Description	
E001	23S61523F13	ELY.,	22μF / 16V
C003	08T35388W30	PP.,	390pF
E007	23T25149W15	ELY.,	4.7μF / 35V
E008	23T25149W15	ELY.,	4.7μF / 35V
C010	08S65128F77	CP.,	0.018μF
C011	08S65128F77	CP.,	0.018μF
E013	23S16086W01	ELY.,	220μF / 10V
C014	08S65128F61	CP.,	2200pF
E016	23S61523F13	ELY.,	22μF / 16V
E018	23T25149W15	ELY.,	4.7μF / 35V
C022	08T90316F22	TF,	0.027μF
C050	08S65128F57	CP.,	1000pF
E102	23S61523F12	ELY.,	10μF / 16V
C122	08S65128F69	CP.,	0.01μF
C124	08S82122F06	CP.,	3pF
E140	23T74437F32	TAN.,	10μF / 16V
E201	23T25149W09	ELY.,	10μF / 16V
E202	23T25149W09	ELY.,	10μF / 16V
C203	08T90316F15	PF,	6800pF
C204	08T90316F15	PF,	6800pF
C207	08T90316F16	PF,	8200pF
E207	23T25149W09	ELY.,	10μF / 16V
C208	08T90316F16	PF,	8200pF
E208	23T25149W09	ELY.,	10μF / 16V
E213	23T74437F32	TAN.,	10μF / 16V
C217	08T90316F09	PF,	2200pF
C218	08T90316F09	PF,	2200pF
C301	08S65128F35	CP.,	100pF
E301	23T25149W05	ELY.,	1μF / 50V
C302	08S65128F35	CP.,	100pF
E302	23T25149W05	ELY.,	1μF / 50V
C303	08S65128F35	CP.,	100pF
E303	23T25149W05	ELY.,	1μF / 50V
C304	08S65128F35	CP.,	100pF
E304	23T25149W05	ELY.,	1μF / 50V
E603	23S61523F13	ELY.,	22μF / 16V
E701	23S82482F02	ELY.,	100μF / 16V
E702	23T90882F18	ELY.,	470μF / 10V
C803	08S65128F69	CP.,	0.01μF
E811	23S61523F12	ELY.,	100μF / 6.3V
E812	23T90882F18	ELY.,	470μF / 10V

Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)

Symbol No.	Part No.	Description
R013	06S64995F91	39K ohm
R035	06S64995F95	56K ohm
R036	06S64995F95	56K ohm
R039	06S64995F83	18K ohm
R040	06S64995F83	18K ohm
R096	06S64995F51	820 ohm
R134	06S64996F20	560K ohm
R135	06S64996F02	100K ohm
R179	06S64995F63	2.7K ohm
R192	06S64995F77	10K ohm
R195	06S64995F53	1K ohm
R203	06S64995F61	2.2K ohm
R204	06S64995F61	2.2K ohm
R205	06S64995F61	2.2K ohm
R206	06S64995F61	2.2K ohm
R225	06S64995F97	68K ohm
R226	06S64995F97	68K ohm
R234	06S64995F69	4.7K ohm
R608	06S64995F89	33K ohm
R629	06S64995F89	33K ohm
R845	06S64996F02	100K ohm
VR101	18T15355W20	Variable, 150K ohm
VR102	18T15356W14	Variable, 15K ohm

Power P. C. Board

Transistors

Symbol No.	Part No.	Description
Q803	48T84234F03	2SB1238
Q804	48T84234F03	2SB1238
Q816	48T84234F03	2SB1238
Q817	48T84234F03	2SB1238

Front P. C. Board

LED's

Symbol No.	Part No.	Description
LD901	48T16167W12	MBG486K (GRN)
LD902	48T16167W12	MBG486K (GRN)
LD903	48T16167W12	MBG486K (GRN)

Lamps

Symbol No.	Part No.	Description
PL901	65T95083F04	6.7V-85mA
PL905	65T95083F05	6.7-85mA

Switches

Symbol No.	Part No.	Description
S901	40T10876W22	Tact, SKHLBC (TUNER)
S902	40T10876W22	Tact, SKHLBC (DISC)
S903	40T10876W22	Tact, SKHLBC (6)
S904	40T10876W22	Tact, SKHLBC (5)
S905	40T10876W22	Tact, SKHLBC (4)
S906	40T10876W22	Tact, SKHLBC (DN)
S907	40T10876W22	Tact, SKHLBC (EJECT)
S908	40T10876W22	Tact, SKHLBC (TUNE / DISP)
S909	40T10876W22	Tact, SKHLBC (3 / SCAN)
S910	40T10876W22	Tact, SKHLBC (2 / REPEAT)
S911	40T10876W22	Tact, SKHLBC (1 / M.I.X.)
S912	40T10876W22	Tact, SKHLBC (UP)
S913	40T10876W22	Tact, SKHLBC (POWER)
S914	40T10876W22	Tact, SKHLBC (SDK)
S915	40T10876W22	Tact, SKHLBC (P.SCAN)
S916	40T10876W22	Tact, SKHLBC (MO / DX)
S917	40T10876W22	Tact, SKHLBC (D.A.P)
S918	40T10876W22	Tact, SKHLBC (RESET)

Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)

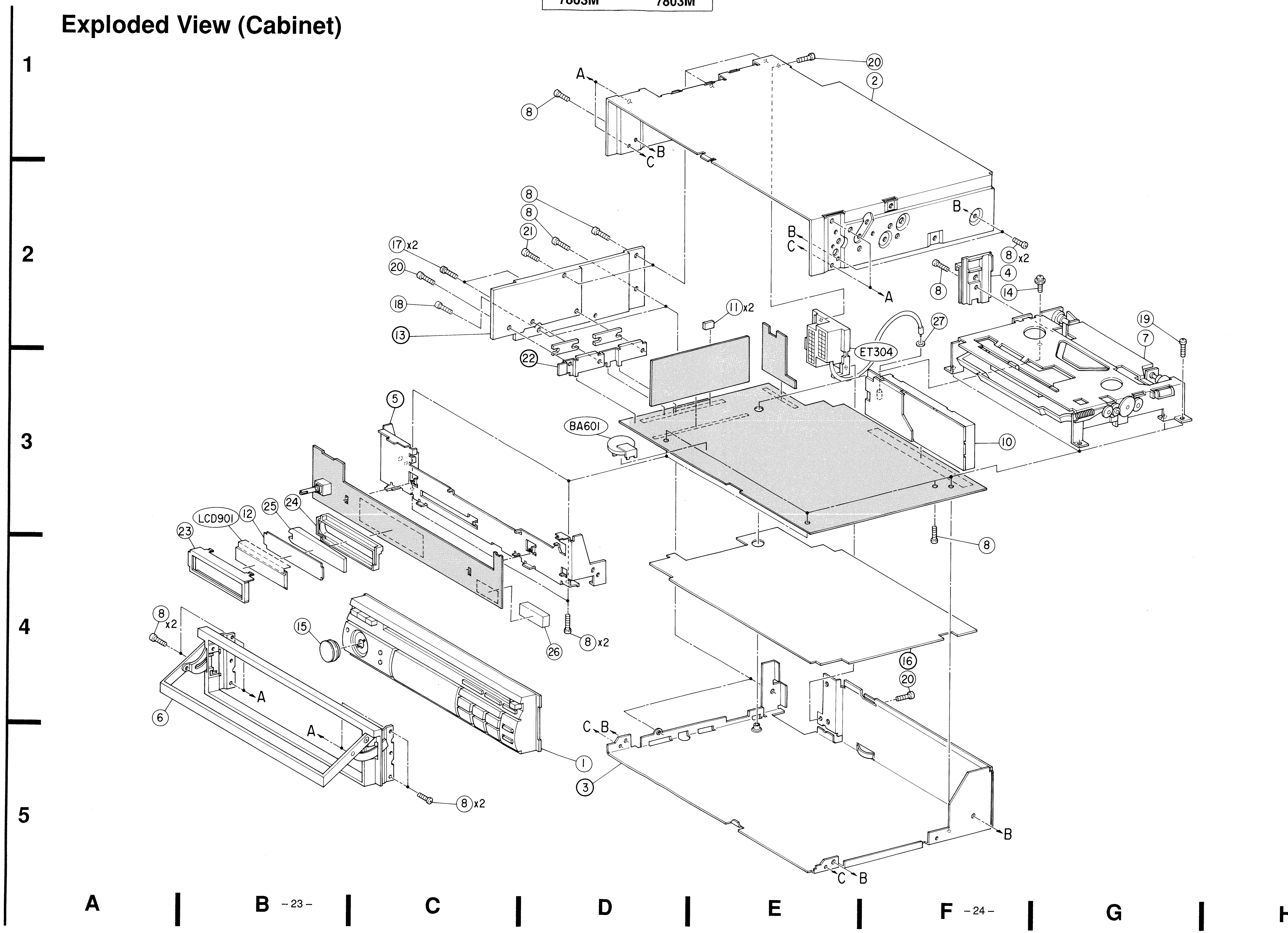
Symbol No.	Part No.	Description
R907	06S64995F69	4.7K ohm
R912	06S64995F69	4.7K ohm
R917	06S64995F69	4.7K ohm
R931	06T70072F35	180 ohm 1/4W

IN / OUT P. C. Board

Diode

Symbol No.	Part No.	Description
D810	48T81044F01	10E2

Exploded View (Cabinet)


1
2
3
4
5
A
B
C
D
E
F
G
H
20
2
8
A
C
B
8
8
21
17 x2
20
18
13
22
B
B
C
8 x2
4
8
14
A
11 x2
27
ET304
19
7
5
BA601
10
LCD901
12
25
24
23
8
8 x2
4
8 x2
15
26
16
20
6
A
A
C
B
1
3
8 x2
B
C
B

Cabinet Assembly Parts List

Note : The parts is not mentioned, refer to the Service Manual 7803M (68P32124W02).

Symbol No.	Index	Part No.	Description
17	2-C	03S40014G74	Screw, W/Washer (M2.6 x 16)
26	4-C	75S62361F49	Cushion, Rubber
27	2-F	04B41345P11	Washer, Lock (M1.2)

Symbol No.	Index	Part No.	Description

Packing Assembly Parts List

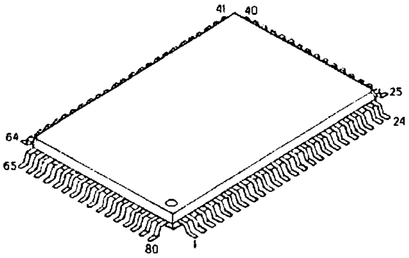
Note : The parts is not mentioned, refer to the Service Manual 7803M (68P32124W02).

Symbol No.	Part No.	Description
101-5	07A30081W01	Bracket, QRB (A)
101-6	07A30082W01	Bracket, QRB (B)
101-7	03S44205G34	Screw, Pan (M2.6 x 5)

Symbol No.	Part No.	Description

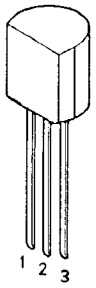
Semi - Conductor Lead Identifications

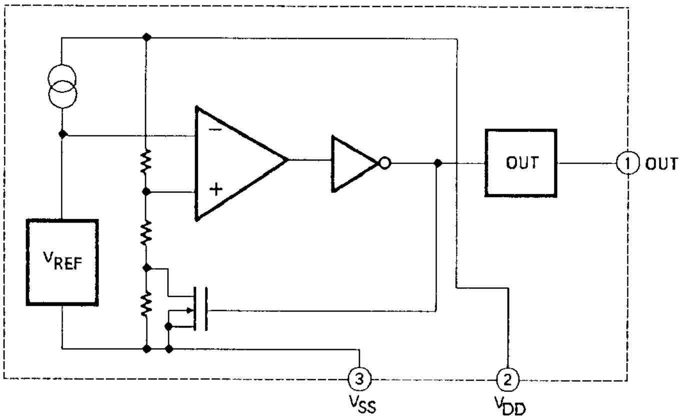
35139W01 : IC601



PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O
1	GND	–	23	EJECT - END	I	45	ALARM	O	67	O - INT	O
2	AVREF	I	24	DISC - IN	I	46	DTS - START	I	68	O - REM	O
3	V_{DD}	–	25	LOAD - BWD	O	47	A - HOLD	I	69	POWER - ON	O
4	V_{DD}	–	26	LOAD - FWD	O	48	B - HOLD	I	70	EV - INH	O
5	V - OUT	O	27	LOAD - CONT	O	49	DTS - MUTE	I	71	EV - DATA	O
6	GND	–	28	V - CONT	O	50	STS	I	72	EV - CLOCK	O
7	GND	–	29	$\overline{\text{PULL UP SW}}$	O	51	CMD	O	73	GND	–
8	GND	–	30	F - CONT	O	52	CLOCK	I	74	ENCOD - DOWN	I
9	LCD - INH	O	31	FM LEVEL	O	53	GND	–	75	ENCOD - UP	I
10	LCD - DATA	O	32	$\overline{\text{CD - RESET}}$	O	54	GND	–	76	GND	–
11	LCD - CLOCK	O	33	GND	–	55	GND	–	77	T - SENSE	I
12	LCD - CE	O	34	BUS3	I/O	56	NC	–	78	KEY - A/D0	I
13	NC	–	35	BUS2	I/O	57	GND	–	79	KEY - A/D1	I
14	NC	–	36	BUS1	I/O	58	X1	I	80	KEY - A/D2	I
15	AMBER	O	37	BUS0	I/O	59	X2	O			
16	W. DOG OUT	O	38	CCE	O	60	$\overline{\text{RESET}}$	I			
17	AREA 1	I	39	BUCK	O	61	GND	–			
18	AREA 2	I	40	LOCK	O	62	$\overline{\text{TP}}$ (GND)	–			
19	AREA 3	I	41	$\overline{\text{CAM - END}}$	O	63	$\overline{\text{IN - PAUSE}}$	I			
20	$\overline{\text{LIMIT - SW}}$	I	42	SOLENOID	O	64	$\overline{\text{IN - INT}}$	I			
21	8 - END	I	43	$\overline{\text{A - MUTE}}$	O	65	$\overline{\text{SDK - TONE}}$	O			
22	RELOAD	I	44	$\overline{\text{CD}}$ / TUNER	O	66	DTS - CE	O			

S-8054ALO : IC803

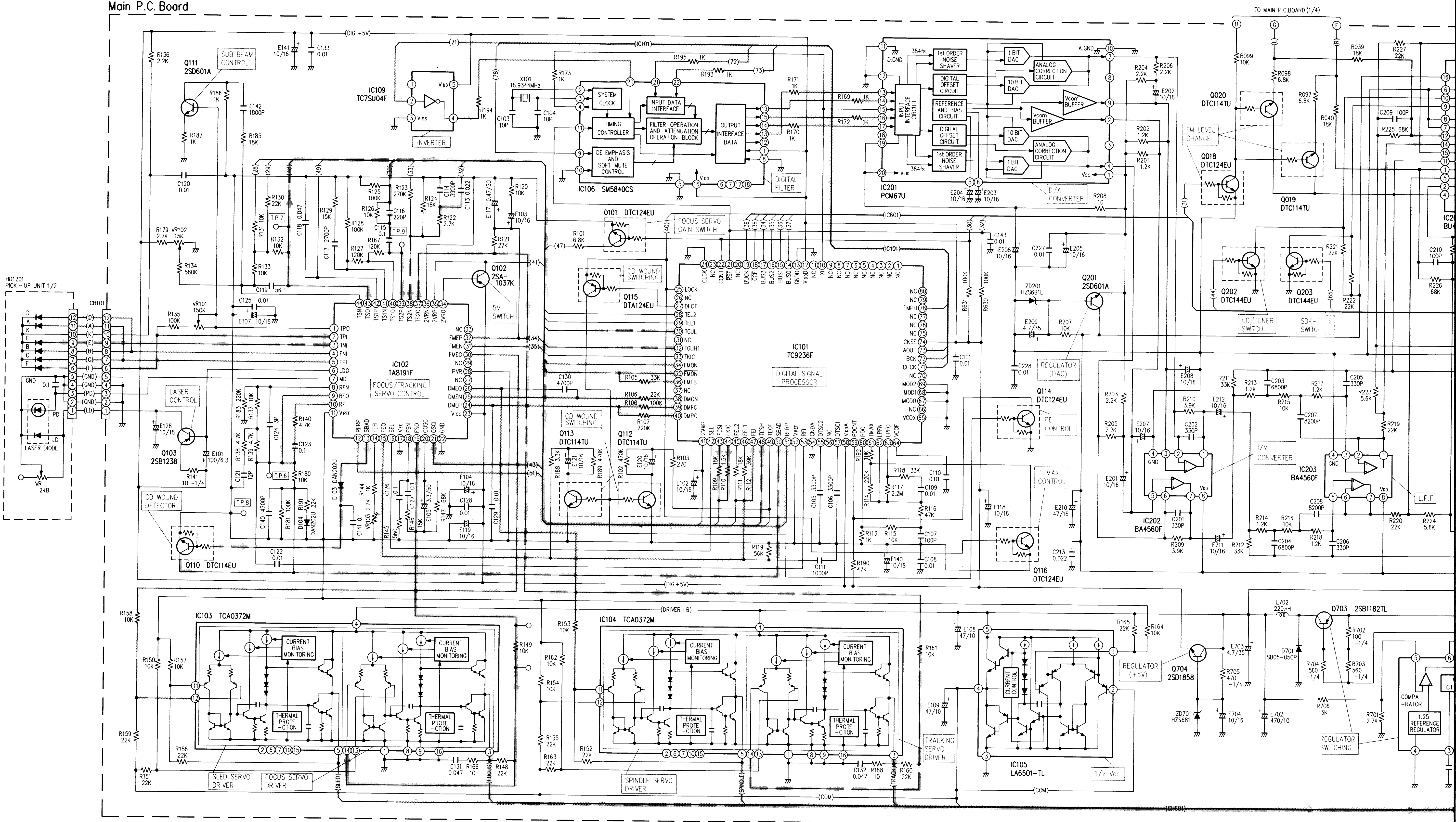


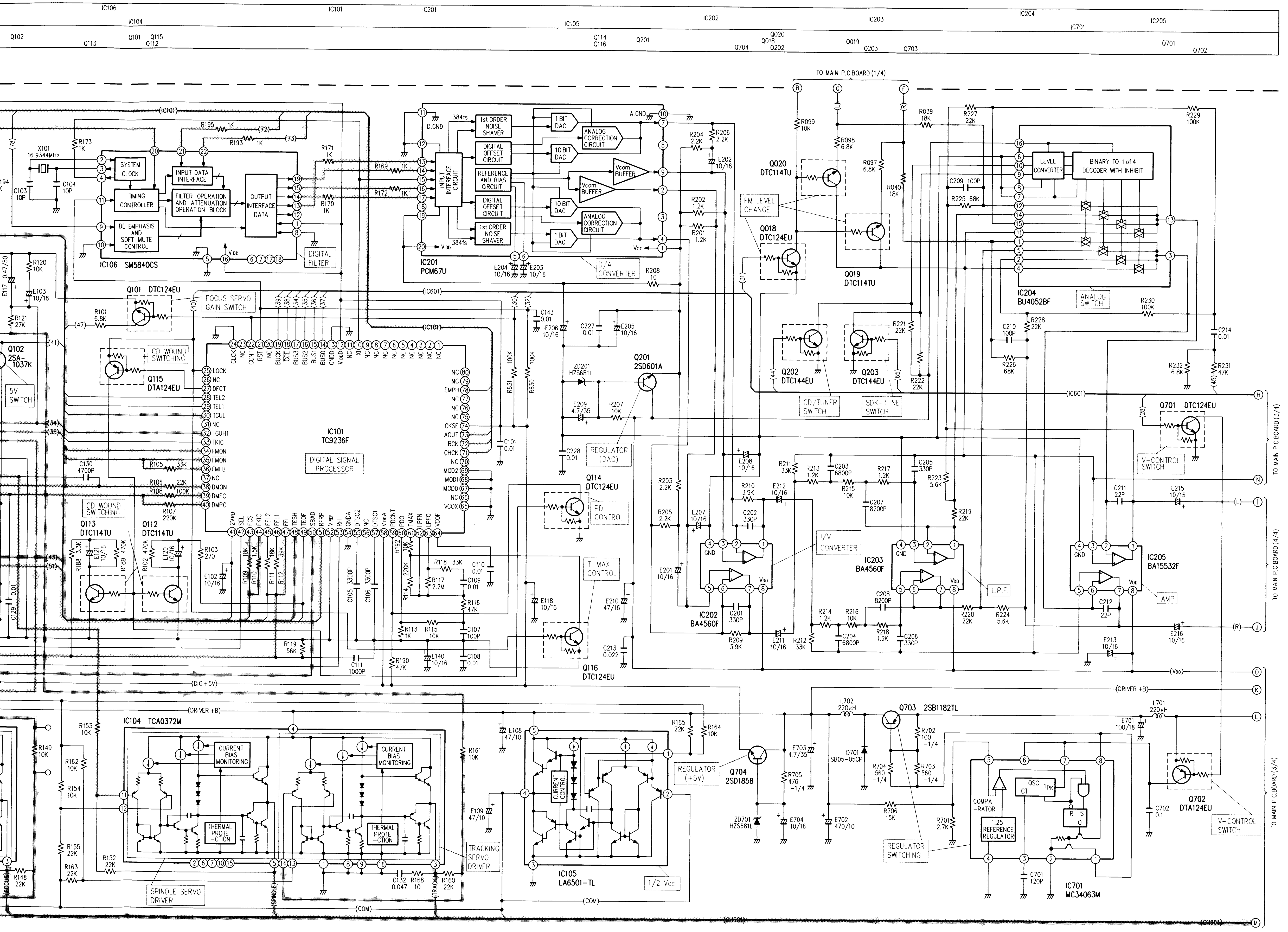


Schematic Diagram (2/4)

IC	IC103 IC109 IC102 IC106 IC104 IC101 IC201 IC105 IC202 IC203
Transistor (Q)	Q111 Q103 Q110 Q102 Q113 Q101 Q115 Q112 Q114 Q116 Q201 Q704 Q020 Q018 Q202 Q019 Q203 Q703

Main P.C. Board


TO MAIN P.C.BOARD (1/4)
(DIG +5V)
(IC101)
(IC601)
(DRIVER +B)
(COM)
(CN601)
HD1201 PICK - UP UNIT 1/2
LASER DIODE
VR 2KB
CB101
Q111 2SD601A
SUB BEAM CONTROL
IC109 TC7SU04F
INVERTER
X101 16.9344MHz
IC106 SM5840CS
SYSTEM CLOCK
TIMING CONTROLLER
DE EMPHASIS AND SOFT MUTE CONTROL
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DIGITAL FILTER
IC201 PCM67U
INPUT INTERFACE CIRCUIT
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
1 BIT DAC
10 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
D/A CONVERTER
A.GND
Q020 DTC114TU
FM LEVEL CHANGE
Q018 DTC124EU
Q019 DTC114TU
IC102 TA8191F
FOCUS/TRACKING SERVO CONTROL
Q102 2SA-1037K
5V SWITCH
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
Q115 DTA124EU
CD WOUND SWITCHING
IC101 TC9236F
DIGITAL SIGNAL PROCESSOR
Q201 2SD601A
ZD201 HZS6B1L
REGULATOR (DAC)
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-… SWITC…
LASER CONTROL
Q103 2SB1238
CD WOUND DETECTOR
Q110 DTC114EU
D103 DAN202U
D104 DAN202U
VR103 2.2K
Q113 DTC114TU
Q112 DTC114TU
Q114 DTC124EU
PD CONTROL
T. MAX CONTROL
Q116 DTC124EU
IC202 BA4560F
I/V CONVERTER
IC203 BA4560F
L.P.F.
IC103 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE-CTION
SLED SERVO DRIVER
FOCUS SERVO DRIVER
IC104 TCA0372M
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
(SLED) (FOCUS) (SPINDLE) (TRACK)
IC105 LA6501-TL
CURRENT CONTROL
1/2 Vcc
Q704 2SD1858
REGULATOR (+5V)
ZD701 HZS6B1L
L702 220μH
D701 SB05-05CP
Q703 2SB1182TL
COMPA-RATOR
1.25 REFERENCE REGULATOR
REGULATOR SWITCHING
1 2 3 4 5
A B C D E F G H


IC101 TC9236F DIGITAL SIGNAL PROCESSOR
IC106 SM5840CS
SYSTEM CLOCK
TIMING CONTROLLER
DE EMPHASIS AND SOFT MUTE CONTROL
INPUT DATA INTERFACE
FILTER OPERATION AND ATTENUATION OPERATION BLOCK
OUTPUT INTERFACE DATA
DIGITAL FILTER
IC201 PCM67U
INPUT INTERFACE CIRCUIT
1st ORDER NOISE SHAVER
DIGITAL OFFSET CIRCUIT
REFERENCE AND BIAS CIRCUIT
1 BIT DAC
10 BIT DAC
ANALOG CORRECTION CIRCUIT
Vcom BUFFER
D/A CONVERTER
X101 16.9344MHz
Q101 DTC124EU
FOCUS SERVO GAIN SWITCH
Q102 2SA-1037K
5V SWITCH
Q115 DTA124EU
CD WOUND SWITCHING
Q113 DTC114TU
Q112 DTC114TU
Q201 2SD601A
ZD201 HZS6B1L
REGULATOR (DAC)
Q114 DTC124EU
PD CONTROL
T. MAX CONTROL
Q116 DTC124EU
TO MAIN P.C.BOARD (1/4)
Q020 DTC114TU
FM LEVEL CHANGE
Q018 DTC124EU
Q019 DTC114TU
Q202 DTC144EU
Q203 DTC144EU
CD/TUNER SWITCH
SDK-TONE SWITCH
IC204 BU4052BF
LEVEL CONVERTER
BINARY TO 1 of 4 DECODER WITH INHIBIT
ANALOG SWITCH
Q701 DTC124EU
V-CONTROL SWITCH
IC202 BA4560F
I/V CONVERTER
IC203 BA4560F
L.P.F.
IC205 BA15532F
AMP
TO MAIN P.C.BOARD (3/4)
TO MAIN P.C.BOARD (4/4)
IC104 TCA0372M
CURRENT BIAS MONITORING
THERMAL PROTE-CTION
SPINDLE SERVO DRIVER
TRACKING SERVO DRIVER
IC105 LA6501-TL
CURRENT CONTROL
1/2 Vcc
Q704 2SD1858
REGULATOR (+5V)
ZD701 HZS68L
D701 SB05-05CP
Q703 2SB1182TL
REGULATOR SWITCHING
IC701 MC34063M
COMPA-RATOR
1.25 REFERENCE REGULATOR
OSC CT
Q702 DTA124EU
V-CONTROL SWITCH
(DIG +5V)
(DRIVER +B)
(Vdd)
(COM)
(IC601)

IC101

1	4.8V	17	PS	33	1.7V	49	2.2V	65	0V
2	4.8V	18	PS	34	2.2V	50	2.5V	66	PS
3		19	PS	35	2.2V	51	2.4V	67	0.1V
4	PS	20	PS	36	2.1V	52	2.2V	68	0.1V
5	PS	21	5V	37	5V	53	PS	69	0.1V
6	PS	22	0V	38	2.2V	54	0.1V	70	PS
7	PS	23	PS	39	PS	55	2.6V	71	PS
8	PS	24	0V	40	PS	56	2.6V	72	PS
9	5.1V	25	5.1V	41	4.3V	57	5.6V	73	PS
10	2.5V	26	4.8V	42	5.1V	58	5.1V	74	5.1V
11	2.4V	27	4.7V	43	2.6V	59	PS	75	0V
12	5.1V	28	2.2V	44	2.6V	60	PS	76	5V
13	0V	29	2.2V	45	2.2V	61	PS	77	5.1V
14	PS	30	2.2V	46	2.2V	62	2.3V	78	0V
15	PS	31	0.4V	47	2.2V	63	2.5V	79	5V
16	PS	32	0.4V	48	2.2V	64	1.6V	80	PS

IC102

1	1.7V	12	PS	23	5V	34	4.4V
2	2V	13	2.7V	24	PS	35	0V
3	2V	14	2V	25	2.1V	36	2.1V
4	2V	15	PS	26	PS	37	PS
5	2V	16	4.9V	27	PS	38	2V
6	3.9V	17	0V	28	2.1V	39	2V
7	0.1V	18	PS	29	2.1V	40	PS
8	2.1V	19	PS	30	2V	41	2V
9	PS	20	PS	31	2V	42	2.1V
10	PS	21	2.4V	32	2.1V	43	2.1V
11	2.1V	22	0V	33	PS	44	2.1V

IC103

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC104

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC105

1	2.6V
2	4V
3	0V
4	4V
5	8.5V

IC109

1	0.1V
2	0V
3	0.1V
4	0.2V

IC106

1	5.1V	12	PS
2	2.6V	13	PS
3	2.6V	14	PS
4	PS	15	PS
5	0V	16	5.1V
6	0V	17	0V
7	0V	18	0V
8	5.1V	19	PS
9	0V	20	PS
10	0V	21	PS
11	4.9V	22	PS

IC201

1	5V	11	0V
2	3.5V	12	0.3V
3	0.4V	13	PS
4	3.5V	14	PS
5	3.2V	15	PS
6	4.2V	16	PS
7	3.5V	17	PS
8	0.4V	18	0V
9	3.5V	19	0V
10	0V	20	4.9V

IC202

1	AUDIO
2	3.5V
3	3.5V
4	0V
5	3.5V
6	3.5V
7	AUDIO
8	8.3V

IC203

1	AUDIO
2	AUDIO
3	AUDIO
4	0V
5	AUDIO
6	AUDIO
7	AUDIO
8	8.3V

IC205

1	AD 4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	AUDIO
8	8.3V

IC204

1	AD 3.7V	9	0V
2	AD 4.1V	10	8V
3	4.2V	11	0V
4	0V	12	AD 3.7V
5	4.2V	13	4.2V
6	0V	14	4.2V
7	0V	15	AD 4V
8	0V	16	8.3V

IC701

1	13.7V
2	0V
3	0.2V
4	0V
5	0V
6	0V
7	0V
8	13.7V

	E	C	B		E	C	B
Q018	0V	6.4V	0V	Q113	0V	0V	0.1V
Q019	0V	4.6V	4.4V	Q115	0V	0V	0V
Q020	4.4V	4.6V	0V	Q201	5.7V	8.9V	5V
Q101	0V	0V	0V	Q202	5.1V	0V	0V
Q102	0V	0V	0V	Q203	3.5V	0V	0V
Q103	0V	0.1V	0V	Q701	0V	13.2V	0V
Q110	0V	0V	0V	Q702	13.2V	0V	13.8V
Q111	0V	0V	0V	Q703	13.7V	0V	13.7V
Q112	0V	0V	−0.4V	Q704	0V	0V	0V

[Measuring Conditions]

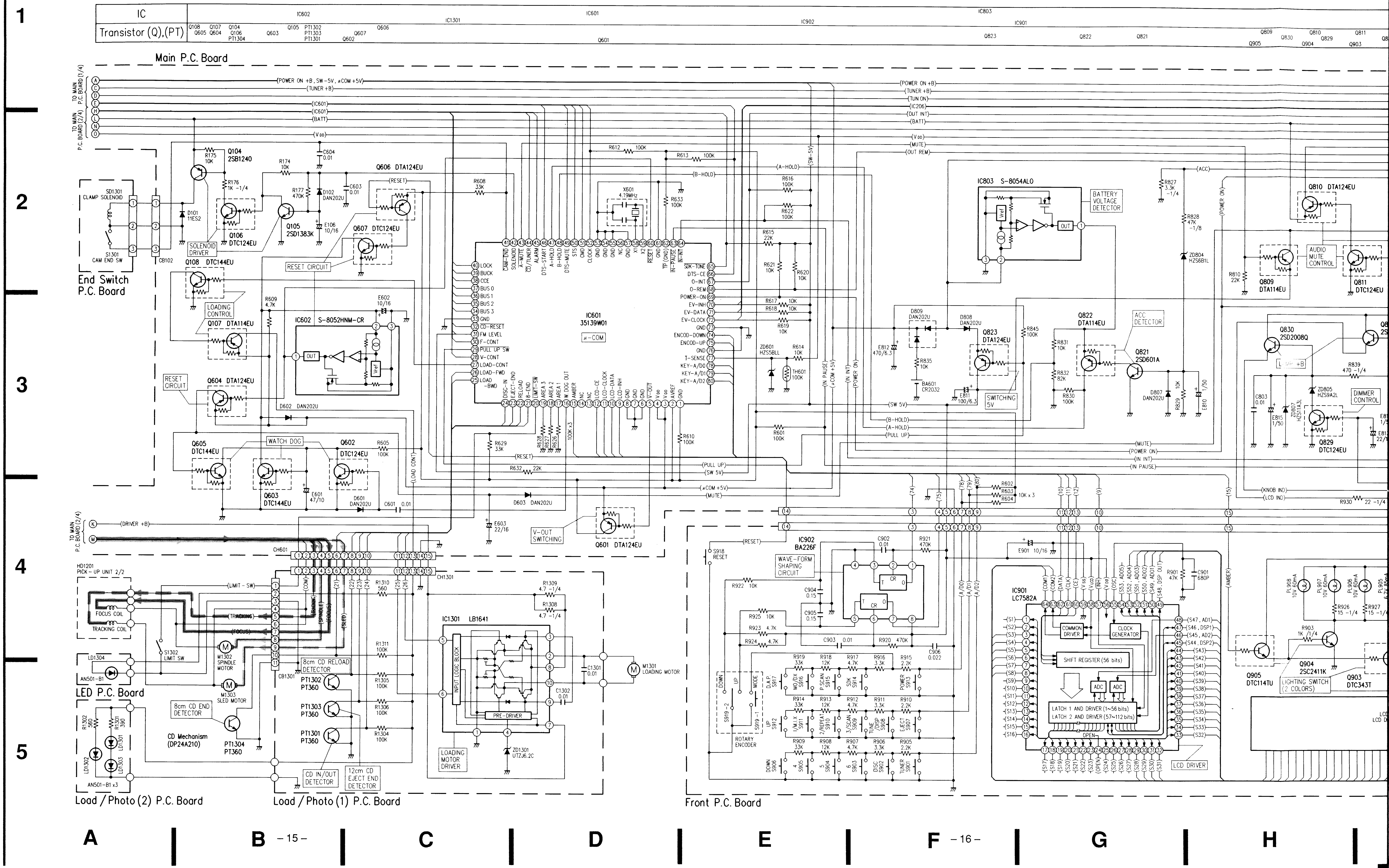
* Power Supply Voltage : DC14V
* Measuring Meter : Digital Multi Voltmeter
* Measuring Point Reference : Between Ground
* Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

CD Signal Line (Digital)
L–ch Signal Line
R–ch Signal Line
▨ Focus Servo Signal Line
▨ Tracking Servo Signal Line
Spindle Servo Signal Line
Sled Servo Signal Line

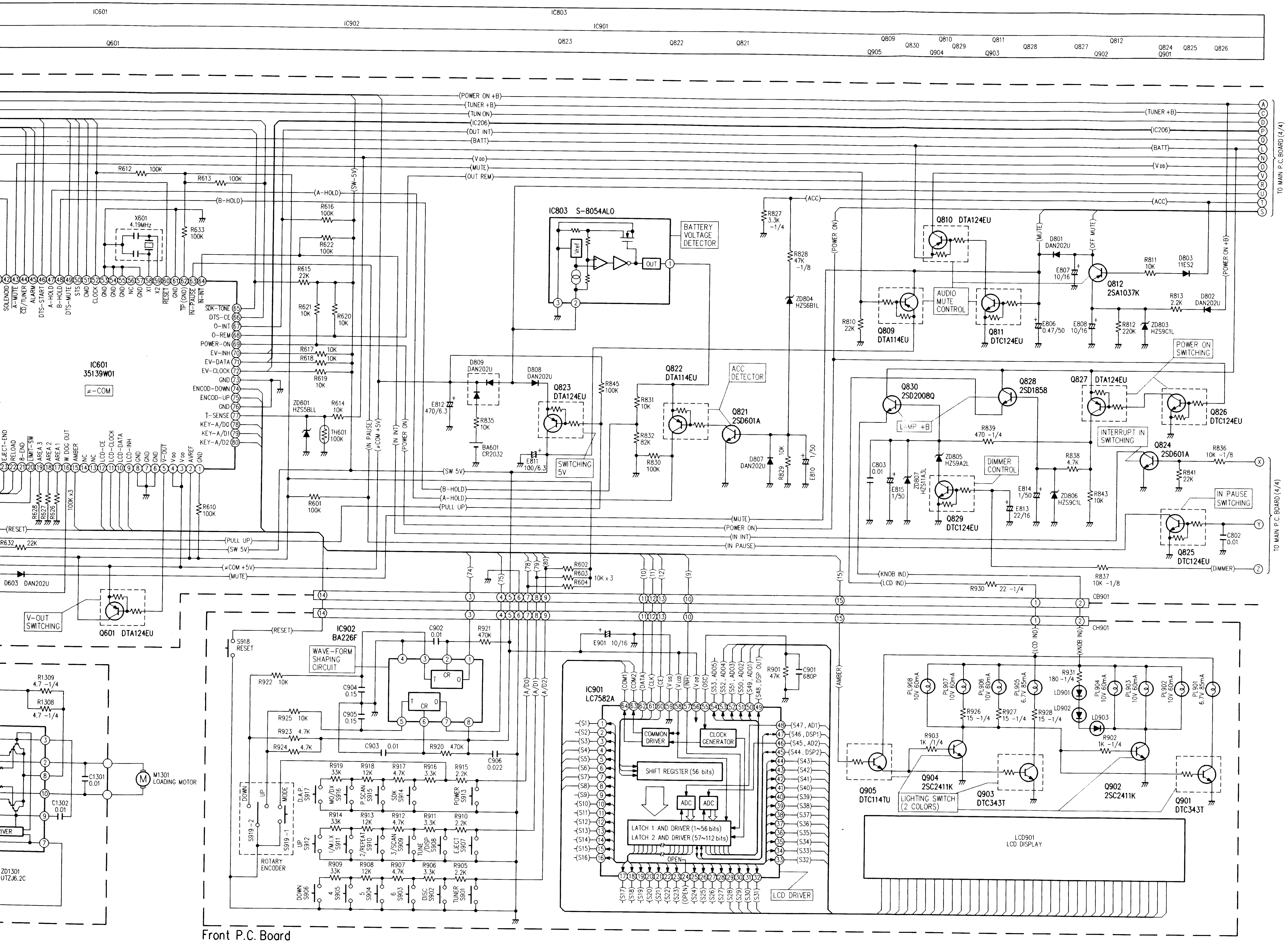
NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (3/4)



1
2
3
4
5
A
B
C
D
E
F
G
H
IC
Transistor (Q),(PT)
IC602
IC1301
IC601
IC902
IC803
IC901
Main P.C. Board
TO MAIN P.C. BOARD (1/4)
TO MAIN P.C. BOARD (2/4)
(POWER ON +B, SW-5V, μCOM +5V)
(TUNER +B)
(IC601)
(BATT)
(Vpp)
(POWER ON +B)
(TUN ON)
(IC206)
(OUT INT)
(MUTE)
(OUT REM)
Q104 2SB1240
Q106 DTC124EU
Q105 2SD1383K
Q606 DTA124EU
Q607 DTC124EU
Q108 DTC144EU
Q107 DTA114EU
Q604 DTA124EU
Q605 DTC144EU
Q603 DTC144EU
Q602 DTC124EU
Q601 DTA124EU
SD1301 CLAMP SOLENOID
S1301 CAM END SW
End Switch P.C. Board
SOLENOID DRIVER
LOADING CONTROL
RESET CIRCUIT
WATCH DOG
V-OUT SWITCHING
IC602 S-8052HNM-CR
IC601 35139W01
μ-COM
X601 4.19MHz
IC803 S-8054ALO
BATTERY VOLTAGE DETECTOR
SWITCHING 5V
Q823 DTA124EU
Q822 DTA114EU
Q821 2SD601A
ACC DETECTOR
Q810 DTA124EU
Q809 DTA114EU
Q811 DTC124EU
AUDIO MUTE CONTROL
Q830 2SD2008Q
Q829 DTC124EU
DIMMER CONTROL
HD1201 PICK-UP UNIT 2/2
FOCUS COIL
TRACKING COIL
S1302 LIMIT SW
M1302 SPINDLE MOTOR
M1303 SLED MOTOR
LD1304
AN501-B1
LED P.C. Board
8cm CD END DETECTOR
CD Mechanism (DP24A210)
PT1304 PT360
Load / Photo (2) P.C. Board
AN501-B1 x3
8cm CD RELOAD DETECTOR
PT1302 PT360
PT1303 PT360
PT1301 PT360
CD IN/OUT DETECTOR
12cm CD EJECT END DETECTOR
Load / Photo (1) P.C. Board
IC1301 LB1641
INPUT LOGIC BLOCK
PRE-DRIVER
LOADING MOTOR DRIVER
ZD1301 UTZJ6.2C
M1301 LOADING MOTOR
CH601
CH1301
CB1301
IC902 BA226F
WAVE-FORM SHAPING CIRCUIT
S918 RESET
S919 ROTARY ENCODER
Front P.C. Board
IC901 LC7582A
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
LCD DRIVER
Q905 DTC114TU
Q904 2SC2411K
Q903 DTC343T
LIGHTING SWITCH (2 COLORS)


IC601
IC803
IC902
IC901
Q601
Q823
Q822
Q821
Q809
Q830
Q810
Q829
Q811
Q828
Q827
Q812
Q824
Q825
Q826
Q905
Q904
Q903
Q902
Q901
(POWER ON +B)
(TUNER +B)
(TUN ON)
(IC206)
(OUT INT)
(BATT)
(VDD)
(MUTE)
(OUT REM)
(A-HOLD)
(B-HOLD)
(ACC)
(SW 5V)
(PULL UP)
(RESET)
(μCOM +5V)
(POWER ON)
(IN INT)
(IN PAUSE)
(KNOB IND)
(LCD IND)
(DIMMER)
(AMBER)
TO MAIN P.C. BOARD (4/4)
R612 100K
R613 100K
X601 4.19MHz
R633 100K
R616 100K
R622 100K
R615 22K
R621 10K
R620 10K
R617 10K
R618 10K
R619 10K
ZD601 HZS5BLL
R614 10K
TH601 100K
R601 100K
R610 100K
R628
R627
R626
100K x3
R632 22K
D603 DAN202U
V-OUT SWITCHING
Q601 DTA124EU
SOLENOID
A-MUTE
CD/TUNER
ALARM
DTS-START
A-HOLD
B-HOLD
DTS-MUTE
STS
CMD
CLOCK
GND
X1
X2
RESET
TP (GND)
IN-PAUSE
IN-INT
SDK-TONE
DTS-CE
O-INT
O-REM
POWER-ON
EV-INH
EV-DATA
EV-CLOCK
ENCOD-DOWN
ENCOD-UP
T-SENSE
KEY-A/D0
KEY-A/D1
KEY-A/D2
EJECT-END
RELOAD
8-END
LIMIT-SW
AREA 3
AREA 2
AREA 1
W DOC OUT
AMBER
LCD-CE
LCD-CLOCK
LCD-DATA
LCD-INH
V-OUT
VDD
AVREF
IC601 35139W01
μ-COM
IC803 S-8054ALO
Vref
OUT
BATTERY VOLTAGE DETECTOR
D809 DAN202U
D808 DAN202U
E812 470/6.3
R835 10K
BA601 CR2032
E811 100/6.3
Q823 DTA124EU
SWITCHING 5V
R845 100K
Q822 DTA114EU
R831 10K
R832 82K
R830 100K
ACC DETECTOR
Q821 2SD601A
D807 DAN202U
R829 10K
E810 1/50
R827 3.3K -1/4
R828 47K -1/8
ZD804 HZS6B1L
R810 22K
Q809 DTA114EU
AUDIO MUTE CONTROL
Q810 DTA124EU
Q811 DTC124EU
D801 DAN202U
E807 10/16
E806 0.47/50
E808 10/16
R812 220K
ZD803 HZS9C1L
R811 10K
D803 11ES2
Q812 2SA1037K
R813 2.2K
D802 DAN202U
POWER ON SWITCHING
Q830 2SD2008Q
Q828 2SD1858
Q827 DTA124EU
Q826 DTC124EU
LAMP +B
R839 470 -1/4
C803 0.01
E815 1/50
ZD807 HZS11A3L
ZD805 HZS9A2L
DIMMER CONTROL
Q829 DTC124EU
E814 1/50
E813 22/16
ZD806 HZS9C1L
R838 4.7K
R843 10K
INTERRUPT IN SWITCHING
Q824 2SD601A
R836 10K -1/8
R841 22K
IN PAUSE SWITCHING
Q825 DTC124EU
C802 0.01
R837 10K -1/8
R930 22 -1/4
CB901
CH901
R602
R603
R604
10K x 3
S918 RESET
IC902 BA226F
WAVE-FORM SHAPING CIRCUIT
C902 0.01
R921 470K
CR
C904 0.15
C905 0.15
R922 10K
R925 10K
R923 4.7K
R924 4.7K
C903 0.01
R920 470K
C906 0.022
R919 33K
R918 12K
R917 4.7K
R916 3.3K
R915 2.2K
MO/DX S916
P.SCAN S915
SDK S914
POWER S913
R914 33K
R913 12K
R912 4.7K
R911 3.3K
R910 2.2K
I/M.I.X S911
2/REPEAT S910
3/SCAN S909
TUNE /DISP S908
EJECT S907
R909 33K
R908 12K
R907 4.7K
R906 3.3K
R905 2.2K
DOWN S906
4 S905
5 S904
6 S903
DISC S902
TUNER S901
DOWN
UP
MODE
S917
S919-2
S919-1
UP S912
ROTARY ENCODER
E901 10/16
IC901 LC7582A
COMMON DRIVER
CLOCK GENERATOR
SHIFT REGISTER (56 bits)
ADC
LATCH 1 AND DRIVER (1~56 bits)
LATCH 2 AND DRIVER (57~112 bits)
OPEN
LCD DRIVER
R901 47K
C901 680P
(COM1)
(COM2)
(DATA)
(CLK)
(CE)
(VSS)
(VDD)
(INH)
(OSC)
(S53, AD05)
(S52, AD04)
(S51, AD03)
(S50, AD02)
(S49, AD01)
(S48, DSP OUT)
(S47, AD1)
(S46, DSP1)
(S45, AD2)
(S44, DSP2)
PL908 10V 60mA
PL907 10V 60mA
PL906 10V 60mA
PL905 6.7V 85mA
R931 180 -1/4
LD901
LD902
PL904 10V 60mA
PL903 10V 60mA
PL902 10V 60mA
PL901 6.7V 85mA
LD903
R926 15 -1/4
R927 15 -1/4
R928 15 -1/4
R903 1K -1/4
R902 1K -1/4
Q905 DTC114TU
Q904 2SC2411K
LIGHTING SWITCH (2 COLORS)
Q903 DTC343T
Q902 2SC2411K
Q901 DTC343T
LCD901 LCD DISPLAY
R1309 4.7 -1/4
R1308 4.7 -1/4
C1301 0.01
C1302 0.01
M1301 LOADING MOTOR
ZD1301 UTZJ6.2C
Front P.C. Board

IC601

1	4.6V/0V	18	5V	33	0V	42	0V	59	PS	68	0V/5V
2	5.1V/0V	19	5V	34	PS	43	5.1V/0V	60	5V		O-REM OFF/ON
3	5V/6V	20	0V/4.6V		CD	44	5.1V/0V	61	0V		
4	5V/6V	21	0V	35	PS	45	0V/PS	62	5V	69	2.8V/0V
5	0V/5.3V	22	0V		CD	46	PS	63	5V/0V		POW ON/OFF
6	0V	23	0V	36	PS	47	5.4V/0V		IN-INT OFF/ON	70	PS
7	0V	24	0V		CD	48	4.8V/0V			71	PS
8	0V	25	0V	37	PS	49	PS	64	5V/0V	72	PS
9	5.1V	26	0V		CD	50	PS		IN-PAUSE OFF/ON	73	0V
10	PS	27	5V	38	PS	51	PS			74	PS
11	PS	28	0V/5.1V		CD	52	PS	65	5V/0V	75	PS
12	PS		TUNER/CD	39	PS	53	0V		SDK-TONE OFF/ON	76	0V
13	0V	29	0V		CD	54	0V			77	5V
14	0V	30	0V	40	5.1V	55	0V	66	PS	78	5V
15	5.1V/0V	31	5.1V/0V		CD	56	0V	67	0V/5V	79	5V
16	PS	32	0V/5V	41	0V/5.1V	57	0V		O-INT OFF/ON	80	5V
17	5V		TUNER/CD		DISC IN/OUT	58	PS				

IC602

1	5.1V
2	5.1V
3	0V

IC803

1	5.4V
2	5.8V
3	0V

IC901

1	NC	17	NC	33	PS	49	PS
2	NC	18	NC	34	PS	50	PS
3	PS	19	NC	35	PS	51	PS
4	PS	20	NC	36	PS	52	PS
5	PS	21	NC	37	PS	53	PS
6	PS	22	NC	38	PS	54	NC
7	PS	23	NC	39	PS	55	0V
8	PS	24	NC	40	PS	56	5V
9	NC	25	NC	41	PS	57	PS
10	NC	26	NC	42	PS	58	5V
11	NC	27	NC	43	PS	59	PS
12	NC	28	NC	44	PS	60	0V
13	NC	29	PS	45	PS	61	PS
14	NC	30	PS	46	PS	62	PS
15	NC	31	PS	47	PS	63	PS
16	NC	32	PS	48	PS	64	PS

IC902

1	0.1V
2	0V
3	0V
4	0V
5	0V
6	0V
7	0.1V
8	0V

IC1301

1	0V
2	6V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	0V
10	6V

	E	C	B		E	C	B
Q104	14V	0V	0V	Q821	0.6V	0V	0V
Q105	0V	0V	0V	Q822	0V	5.4V	5.4V
Q106	0V	13.6V	0V	Q823	0.2V	5.2V	5.2V
Q107	5.1V	-0.1V	5.1V	Q824	0V	5V	0V
Q108	0V	5.1V	0V	Q825	0V	4.9V	0V
Q601	0V	5.1V	5.1V	Q826	2.7V	0V	0V
Q602	0V	5.1V	0V	Q827	14V	0V	14V
Q603	0.2V	0.1V	0V	Q828	11.6V	13.8V	13.3V
Q604	5.2V	0V	5.1V	Q829	0V	2V	0V
Q605	0V	0.1V	0V	Q830	9.3V	13.8V	10V
Q606	5.1V	0V	4.9V	Q901	0V	11.3V	0.1V
Q607	0V	4.9V	0V	Q902	0V	11.3V	0.1V
Q809	5.1V	0V	5.1V	Q903	0.1V	11.2V	0.1V
Q810	13.7V	3.3V	13.7V	Q904	0.1V	9.1V	0.1V
Q811	0V	13.7V	0V	Q905	9.1V	0.1V	0.1V
Q812	8.5V	0.1V	9.1V				

[Measuring Conditions]

* Power Supply Voltage : DC14V
* Measuring Meter : Digital Multi Voltmeter
* Measuring Point Reference : Between Ground
* Measuring Conditions :
  CD : Be playing back the 2nd Music
  of the test CD (YEDS - 18).
  TUNER : No signal input
  FM : 98.1 MHz
  MW : 999 kHz
  LW : 216 kHz

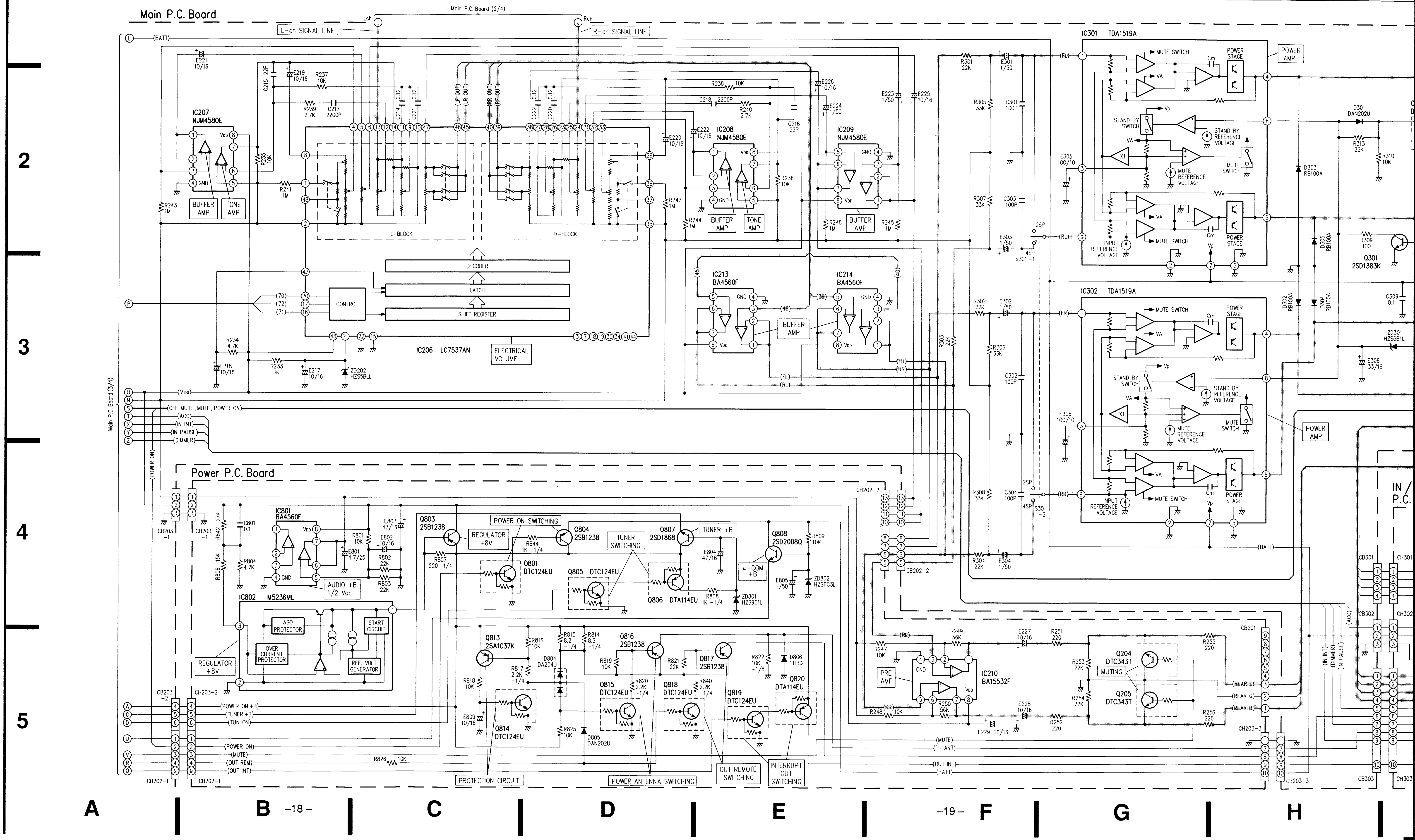
▬ ▬ Focus Servo Signal Line
▬ ▬ Tracking Servo Signal Line
▬ ▬ Spindle Servo Signal Line
▬ ▬ Sled Servo Signal Line

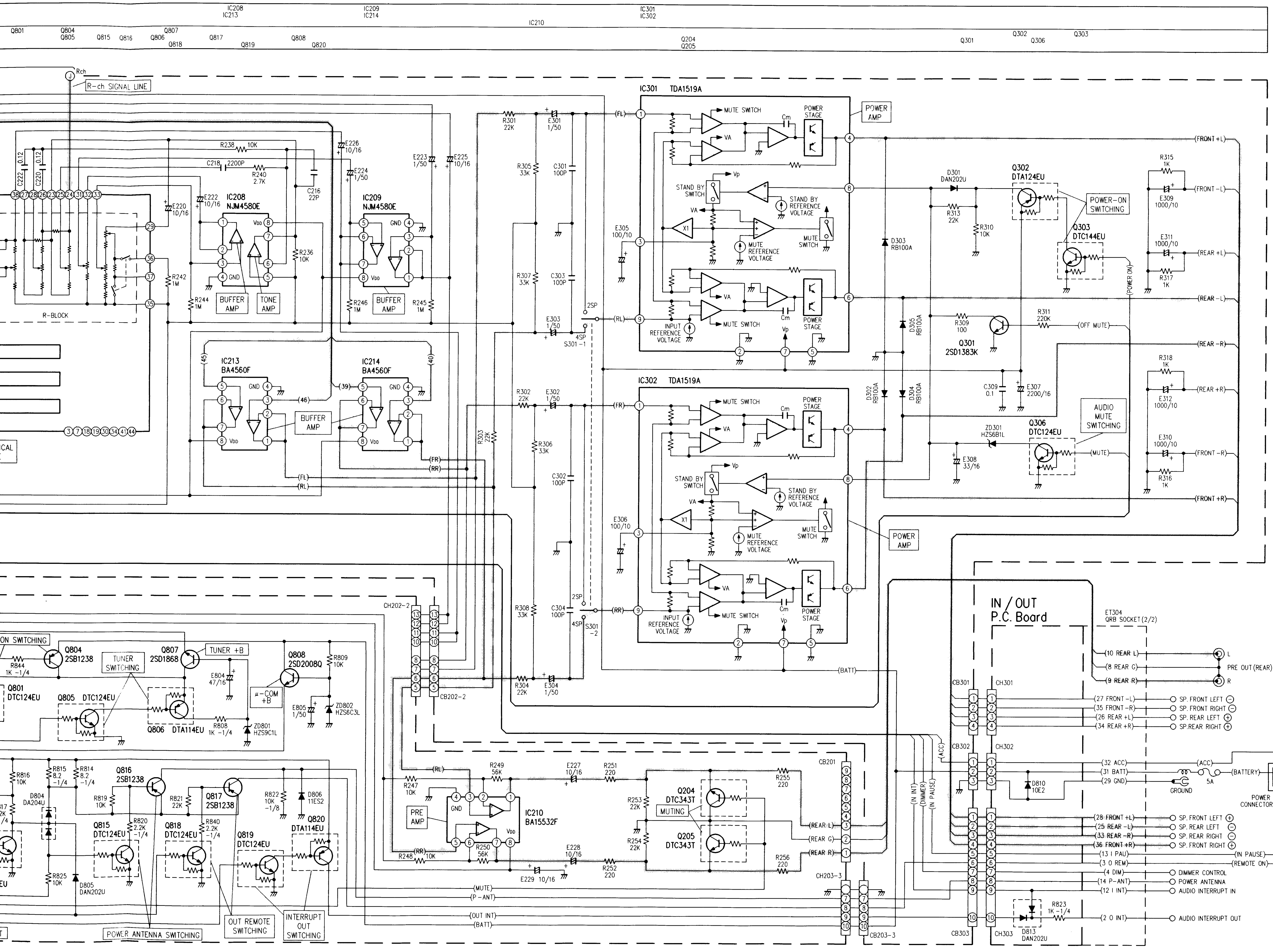
NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (4/4)

IC	IC207 IC802 IC801 IC206 IC208 IC213 IC209 IC214 IC210 IC301 IC302
Transistor (Q)	Q803 Q813 Q814 Q801 Q804 Q805 Q815 Q816 Q806 Q807 Q818 Q817 Q819 Q808 Q820 Q204 Q205 Q301


1
2
3
4
5
Main P.C. Board
Main P.C. Board (2/4)
Lch
Rch
L-ch SIGNAL LINE
R-ch SIGNAL LINE
(BATT)
IC207 NJM4580E
BUFFER AMP
TONE AMP
IC206 LC7537AN
L-BLOCK
R-BLOCK
DECODER
LATCH
SHIFT REGISTER
CONTROL
ELECTRICAL VOLUME
IC208 NJM4580E
IC209 NJM4580E
IC213 BA4560F
IC214 BA4560F
BUFFER AMP
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
INPUT REFERENCE VOLTAGE
S301-1
S301-2
D301 DAN202U
D303 RB100A
D302 RB100A
D304 RB100A
D305 RB100A
ZD301 HZS6B1L
Q301 2SD1383K
Main P.C. Board (3/4)
(V DD)
(OFF MUTE, MUTE, POWER ON)
(ACC)
(IN INT)
(IN PAUSE)
(DIMMER)
(POWER ON)
Power P.C. Board
IC801 BA4560F
AUDIO +B 1/2 Vcc
IC802 M5236ML
ASO PROTECTOR
OVER CURRENT PROTECTOR
START CIRCUIT
REF. VOLT GENERATOR
REGULATOR +8V
Q803 2SB1238
POWER ON SWITCHING
Q804 2SB1238
Q801 DTC124EU
Q805 DTC124EU
Q806 DTA114EU
TUNER SWITCHING
Q807 2SD1868
TUNER +B
Q808 2SD2008Q
µ-COM +B
ZD801 HZS9C1L
ZD802 HZS6C3L
Q813 2SA1037K
Q814 DTC124EU
D804 DA204U
D805 DAN202U
Q816 2SB1238
Q815 DTC124EU
Q818 DTC124EU
Q817 2SB1238
Q819 DTC124EU
Q820 DTA114EU
D806 11ES2
PROTECTION CIRCUIT
POWER ANTENNA SWITCHING
OUT REMOTE SWITCHING
INTERRUPT OUT SWITCHING
(POWER ON +B)
(TUNER +B)
(TUN ON)
(MUTE)
(OUT REM)
(OUT INT)
(P-ANT)
CH202-2
CB202-2
CB202-1
CH202-1
CB203-1
CH203-1
CB203-2
CH203-2
CB203-3
CH203-3
IC210 BA15532F
PRE AMP
Q204 DTC343T
Q205 DTC343T
MUTING
(REAR L)
(REAR G)
(REAR R)
CB201
CB301
CH301
CB302
CH302
CB303
CH303
IN / P.C.
A
B
C
D
E
F
G
H


IC208 IC213
IC209 IC214
IC210
IC301 IC302
Q801
Q804 Q805
Q815 Q816 Q806
Q807 Q818
Q817 Q819
Q808 Q820
Q204 Q205
Q301
Q302 Q306
Q303
Rch
R-ch SIGNAL LINE
R238 10K
C218 2200P
R240 2.7K
C216 22P
E226 10/16
E224 1/50
E223 1/50
E225 10/16
E220 10/16
E222 10/16
IC208 NJM4580E
IC209 NJM4580E
R236 10K
R242 1M
R244 1M
R246 1M
R245 1M
BUFFER AMP
TONE AMP
R-BLOCK
IC213 BA4560F
IC214 BA4560F
BUFFER AMP
IC301 TDA1519A
IC302 TDA1519A
MUTE SWITCH
POWER STAGE
POWER AMP
STAND BY SWITCH
STAND BY REFERENCE VOLTAGE
MUTE REFERENCE VOLTAGE
MUTE SWITCH
INPUT REFERENCE VOLTAGE
R301 22K
E301 1/50
R305 33K
C301 100P
R307 33K
C303 100P
E303 1/50
E305 100/10
2SP
4SP
S301-1
R302 22K
E302 1/50
R303 22K
R306 33K
C302 100P
E306 100/10
R308 33K
C304 100P
S301-2
R304 22K
E304 1/50
D301 DAN202U
R313 22K
R310 10K
D303 RB100A
D305 RB100A
D302 RB100A
D304 RB100A
Q302 DTA124EU
POWER-ON SWITCHING
Q303 DTC144EU
R309 100
Q301 2SD1383K
R311 220K
C309 0.1
E307 2200/16
ZD301 HZS6B1L
E308 33/16
Q306 DTC124EU
AUDIO MUTE SWITCHING
R315 1K
E309 1000/10
E311 1000/10
R317 1K
R318 1K
E312 1000/10
E310 1000/10
R316 1K
(FRONT+L)
(FRONT-L)
(REAR+L)
(REAR-L)
(REAR-R)
(REAR+R)
(FRONT-R)
(FRONT+R)
(POWER ON)
(OFF MUTE)
(MUTE)
(BATT)
CH202-2
CB202-2
ON SWITCHING
Q804 2SB1238
R844 1K -1/4
TUNER SWITCHING
Q807 2SD1868
TUNER +B
Q808 2SD2008Q
R809 10K
E804 47/16
μ-COM +B
E805 1/50
ZD802 HZS6C3L
Q801 DTC124EU
Q805 DTC124EU
Q806 DTA114EU
R808 1K -1/4
ZD801 HZS9C1L
R816 10K
R815 8.2 -1/4
R814 8.2 -1/4
D804 DA204U
Q816 2SB1238
R819 10K
R820 2.2K -1/4
R821 22K
Q817 2SB1238
R840 2.2K -1/4
R822 10K -1/8
D806 11ES2
Q815 DTC124EU
Q818 DTC124EU
Q819 DTC124EU
Q820 DTA114EU
R825 10K
D805 DAN202U
POWER ANTENNA SWITCHING
OUT REMOTE SWITCHING
INTERRUPT OUT SWITCHING
R247 10K
R249 56K
E227 10/16
R251 220
PRE AMP
IC210 BA15532F
R250 56K
R248 10K
E228 10/16
R252 220
E229 10/16
R253 22K
R254 22K
Q204 DTC343T
MUTING
Q205 DTC343T
R255 220
R256 220
CB201
(REAR L)
(REAR G)
(REAR R)
CH203-3
CB203-3
(MUTE)
(P-ANT)
(OUT INT)
(BATT)
(IN INT)
(DIMMER)
(IN PAUSE)
(ACC)
IN / OUT P.C. Board
ET304 QRB SOCKET (2/2)
(10 REAR L)
(8 REAR G)
(9 REAR R)
L
PRE OUT (REAR)
R
CB301
CH301
(27 FRONT -L)
(35 FRONT -R)
(26 REAR +L)
(34 REAR +R)
SP. FRONT LEFT ⊖
SP. FRONT RIGHT ⊖
SP. REAR LEFT ⊕
SP. REAR RIGHT ⊕
CB302
CH302
(32 ACC)
(31 BATT)
(29 GND)
D810 10E2
GROUND
5A
(ACC)
(BATTERY)
POWER CONNECTOR
(28 FRONT +L)
(25 REAR -L)
(33 REAR -R)
(36 FRONT +R)
(13 I PAU)
(3 0 REM)
(4 DIM)
(14 P-ANT)
(12 I INT)
SP. FRONT LEFT ⊕
SP. REAR LEFT ⊖
SP. REAR RIGHT ⊖
SP. FRONT RIGHT ⊕
(IN PAUSE)
(REMOTE ON)
DIMMER CONTROL
POWER ANTENNA
AUDIO INTERRUPT IN
CB303
CH303
D813 DAN202U
R823 1K -1/4
(2 0 INT)
AUDIO INTERRUPT OUT
D
E
F
G
H
I
J
K

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1{,}000{,}000}$

IC206

1	3.8V	13	AD 4.4V	25	AD 4.4V	37	4.4V
2	4.1V	14	AD 4.4V	26	4.4V	38	AD 4.4V
3	0V	15	0V	27	AD 4.4V	39	AD 4.4V
4	AD 4.1V	16	0V	28	4.4V	40	AD 4.4V
5	AD 3.9V	17	0V	29	AD 4.4V	41	NC
6	3.9V	18	0V	30	NC	42	8.3V
7	NC	19	8.3V	31	AD 4.4V	43	8.3V
8	AD 4.4V	20	0V	32	AD 4.4V	44	NC
9	4.4V	21	5V	33	AD 4.4V	45	AD 4.4V
10	AD 4.4V	22	5.1V	34	NC	46	AD 4.4V
11	AD 4.4V	23	0V	35	4.4V	47	AD 4.4V
12	4.4V	24	AD 4.4V	36	3.7V	48	NC

IC207

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC208

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC209

1	4.7V
2	4.7V
3	4.3V
4	0V
5	4.3V
6	4.7V
7	4.7V
8	8.9V

IC210

1	4.7V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.7V
8	8.9V

IC213

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC214

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC301

1	2V
2	0V
3	6.7V
4	6.6V
5	0V
6	6.7V
7	14.1V
8	7.5V
9	2V

IC302

1	2V
2	0V
3	6.7V
4	6.7V
5	0V
6	6.7V
7	14.1V
8	7.5V
8	2V

IC801

1	0V
2	0V
3	0V
4	0V
5	4.1V
6	4.1V
7	4.1V
8	8.3V

IC802

1	1.2V
2	0V
3	12.7V

	E	C	B
Q204	13.7V	0V	0V
Q205	13.7V	0V	0V
Q301	0V	7.4V	0.3V
Q302	0V	13.7V	13.8V
Q303	2.7V	0V	0V
Q306	5V	0V	0V
Q801	0V	0V	2.7V
Q803	13.1V	8.9V	12.5V
Q804	13.8V	13.7V	13.1V
Q805	0V	0V	0V
Q806	0V	0V	0V
Q807	9.3V	13.7V	8.7V
Q808	5.8V	13.8V	6.4V
Q813	0V		
Q814	0V	13.7V	0V
Q815	9.7V	0V	0V
Q816	13.7V	13.7V	13.1V
Q817	13.7V	13.7V	13V
Q818	13.6V	0.1V	0V
Q819	0V	13.6V	0V
Q820	13.6V	0V	13.6V

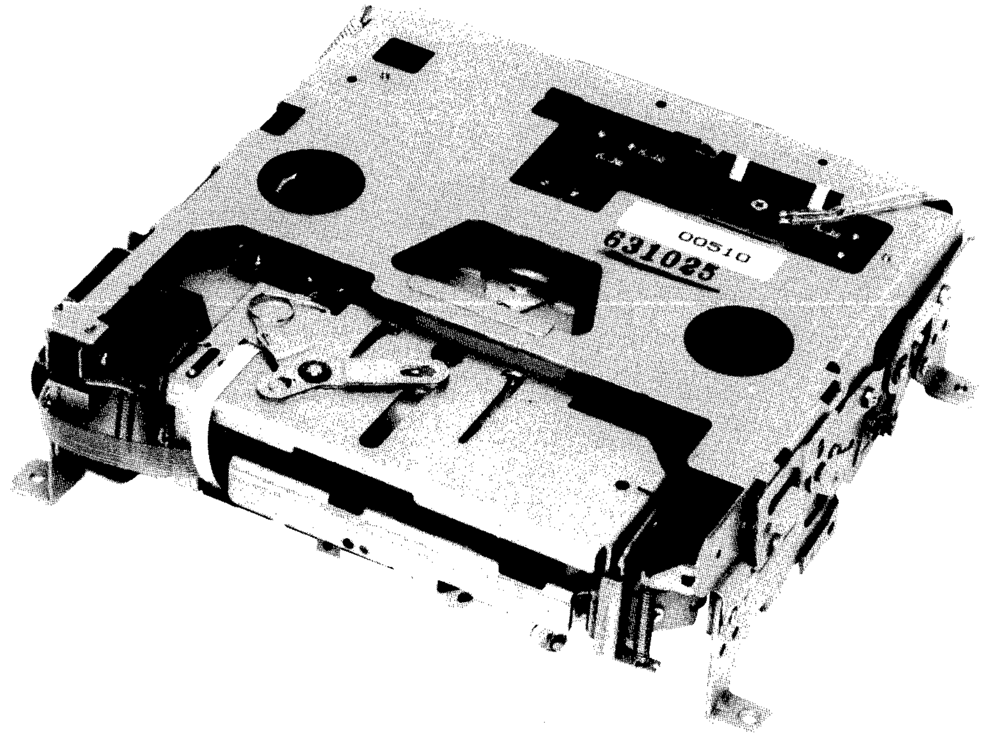
[Measuring Conditions]

- * Power Supply Voltage : DC14V
- * Measuring Meter : Digital Multi Voltmeter
- * Measuring Point Reference : Between Ground
- * Measuring Conditions :
  - CD : Be playing back the 2nd Music of the test CD (YEDS – 18).
  - TUNER : No signal input
    - FM : 98.1 MHz
    - MW : 999 kHz
    - LW : 216 kHz

ALPINE SERVICE MANUAL

CD Player Mechanism

ADDENDUM & REVISED (III)


00510
631025

DP-S SERIES

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Mechanism Function Description

Function	Step	Description	Illustration
LOADING (of a 12cm CD)	①	The beam to the photo sensor (A) will be broken when a disc is inserted into the loading position.	Figure 1
	②	The mechanism detects the disc insertion and actuates the Loading motor to rotate. The rotation of motor is transmitted to the drive roller through gears (E), (D), (B) and (A).	Figure 2 Figure 7
	③	The disc will be pinched between the drive roller and the upper guide and pulled into the mechanism.	Figure 7
	④	The disc reaches to the sensor gate mechanism. The beam to the photo sensor (D) is broken, and simultaneously the micro-processor discriminates 12 or 8cm CD size depending on the photo sensor (B). If the beam to the photo sensor (B) is broken, the micro-processor detects that the disc is a 12cm CD and it continues feeding the disc.	Figure 3

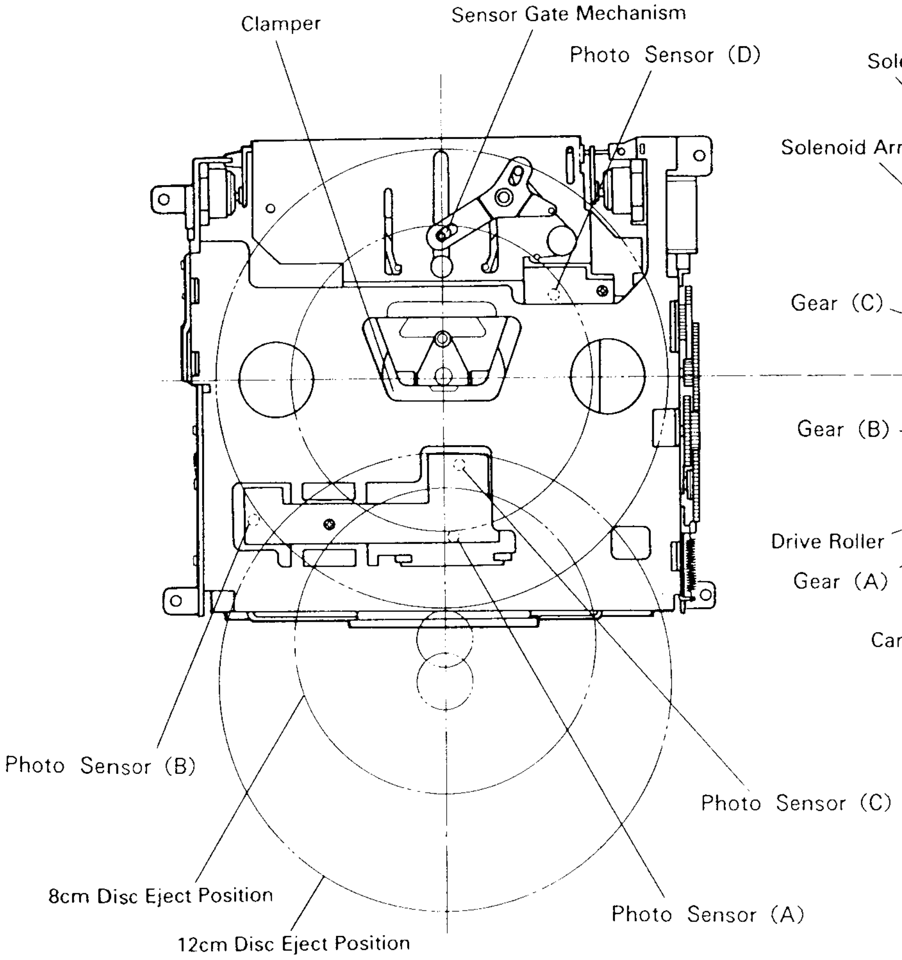

Clamper
Sensor Gate Mechanism
Photo Sensor (D)
Photo Sensor (B)
Photo Sensor (C)
8cm Disc Eject Position
Photo Sensor (A)
12cm Disc Eject Position

Figure 1

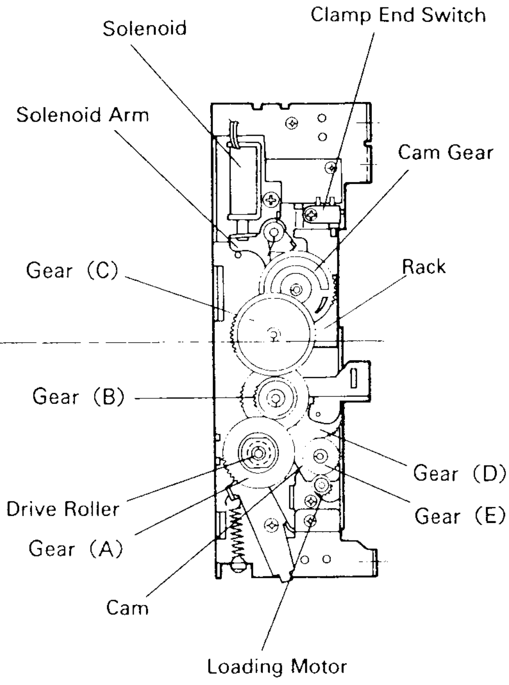

Solenoid
Clamp End Switch
Solenoid Arm
Cam Gear
Gear (C)
Rack
Gear (B)
Gear (D)
Drive Roller
Gear (E)
Gear (A)
Cam
Loading Motor

Figure 2

Function	Step	Description	Illustration
LOADING (of a 12cm CD)	⑤	The disc touches the left and right stopper pins, and push them by the feed mechanism. By pushing the stopper pins, the left and right lock levers rotate and the lock pins remove from the lock position of the guide holes.	Figure 3
	⑥	The disc touches the disc stopper and moves the unlocked sensor gate to the outer direction by the feed mechanism.	Figure 4
	⑦	If the disc reaches to the end position, the beam reaches to the photo sensor (B).	Figure 4
	⑧	The mechanism detects that the disc is pulled into the chucking position and starts chucking action.	Figure 4

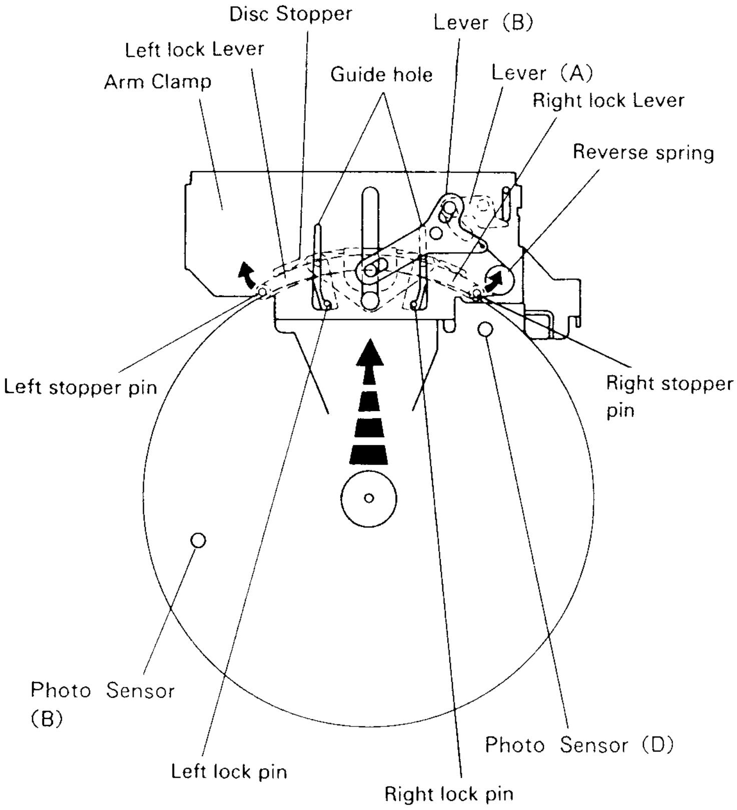

Disc Stopper
Lever (B)
Left lock Lever
Arm Clamp
Guide hole
Lever (A)
Right lock Lever
Reverse spring
Left stopper pin
Right stopper pin
Photo Sensor (B)
Left lock pin
Photo Sensor (D)
Right lock pin

Figure 3

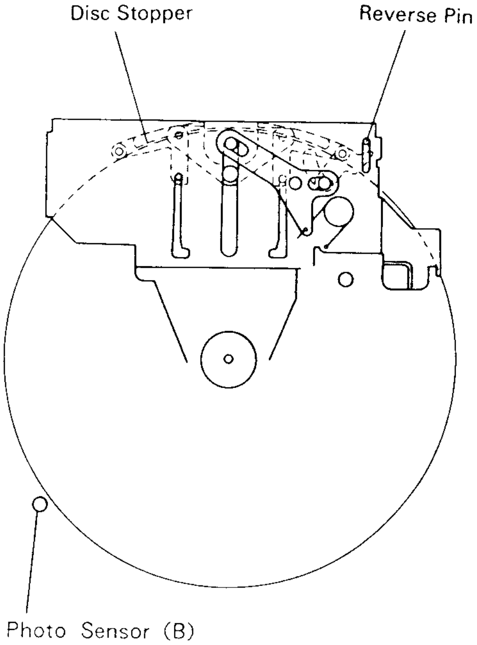
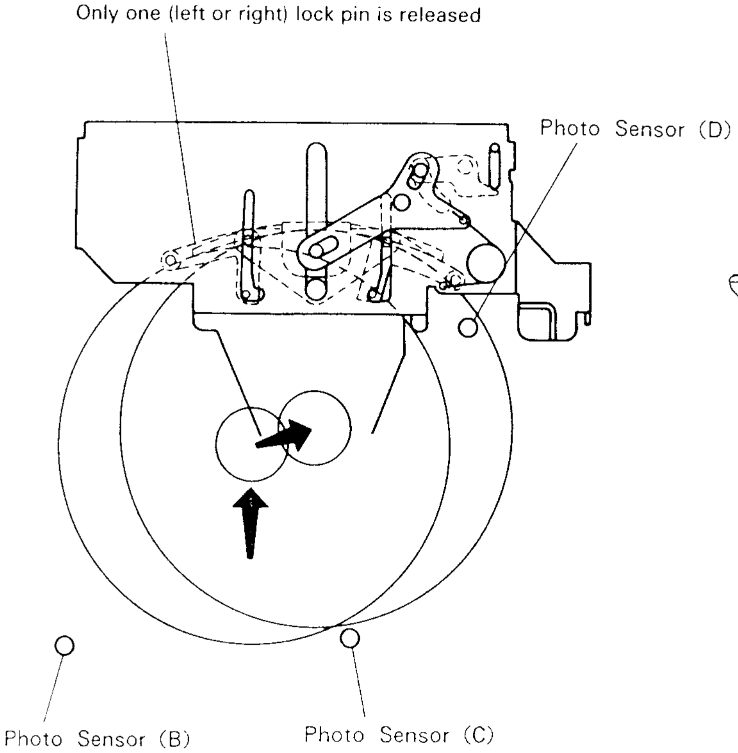

Disc Stopper
Reverse Pin
Photo Sensor (B)

Figure 4

Function	Step	Description	Illustration
LOADING (of a 8cm CD)	① ② ③	The same process as 12cm CD loading operation steps①~③.	Figure 1 Figure 2 Figure 7
	④	The disc reaches to the sensor gate mechanism. The sensor gate mechanism moves depending on the disc insertion position at the disc slot as follows. A) When the disc is inserted at the center of the slot. The disc touches to the disc stopper. The disc cannot push both the left and right stopper pins, so that the locking pins cannot be released. The disc movement stops there. B) When the disc is inserted at the deviated position to the left or right from the center of the slot. First, the disc pushes the left or right stopper pin. The disc cannot push the another stopper pin, so that the locking pins cannot be released. The disc moves by the shape of the disc stopper to the center position and stops.	Figure 5
	⑤	If the beam reaches to the photo sensor (B) and (C) when the beam to the photo sensor (D) is broken by the disc, the mechanism discriminates that the 8cm CD is in the chucking position, and starts chucking action.	Figure 5



When a disc is inserted at the left from the center of the slot.

Figure 5

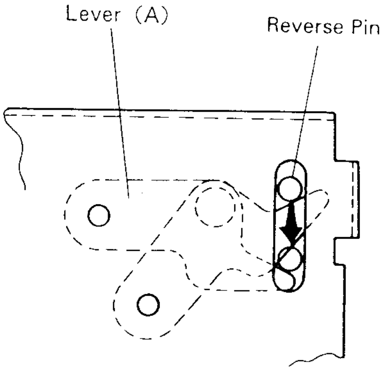


Figure 6

Function	Step	Description	Illustration
CHUCKING	①	The mechanism detects that the disc is pulled into the Chucking position and pulls the solenoid.	Figure 8
	②	The solenoid arm connected with the solenoid starts to rotate and transmits the rotation to the cam gear.	Figure 8
	③	The cam gear starts to rotate and engages with the gear (C) then the driving power of the Loading motor will be transmitted to the cam gear.	Figure 8
	④	The rotating cam gear engages with rack, and moves the rack toward the right.	Figure 8
	⑤	With the movement of the rack, the following functions will be performed simultaneously. A. The clamper moves downward and chucks the disc. B. The drive roller moves downward and releases the disc pinched previously and moves the disc downward. C. Releases the locking on the pickup block and places the unit in the floating status.	Figure 8 Figure 9 Figure 10
	⑥	The rack slides to the right end and releases the engagements between the gear (C) and the cam gear as well as the cam gear and rack, and turns the clamp end switch on.	Figure 8
	⑦	The mechanism detects that the clamp operation has finished, and the Loading motor stops rotating.	Figure 8

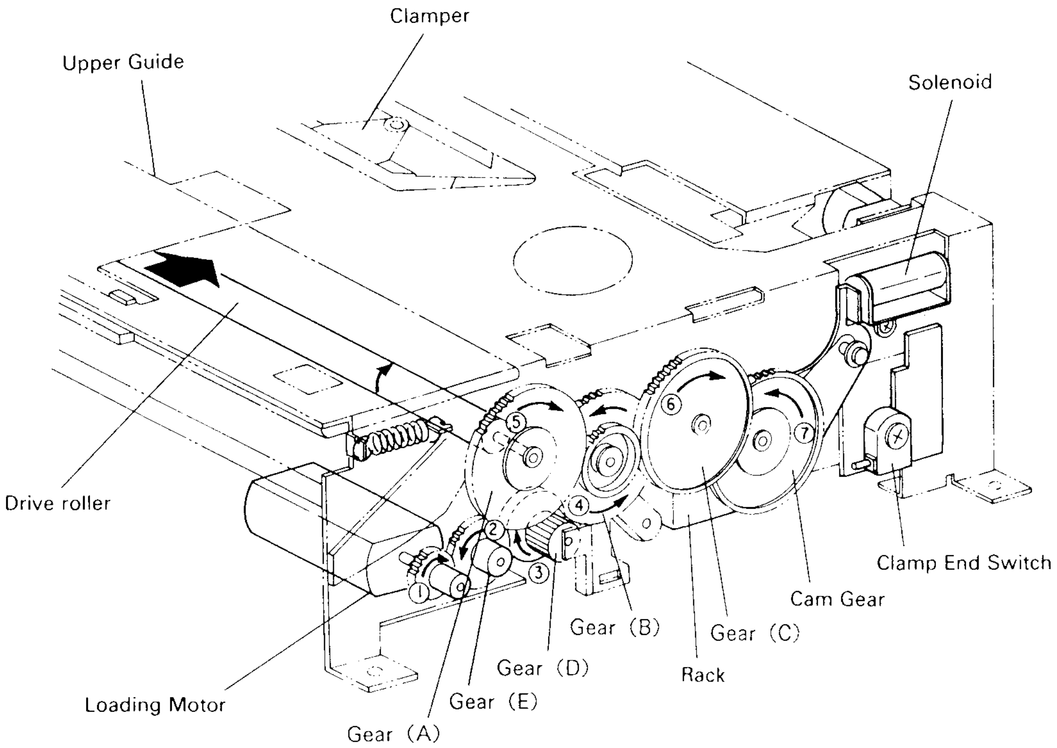


Figure 7

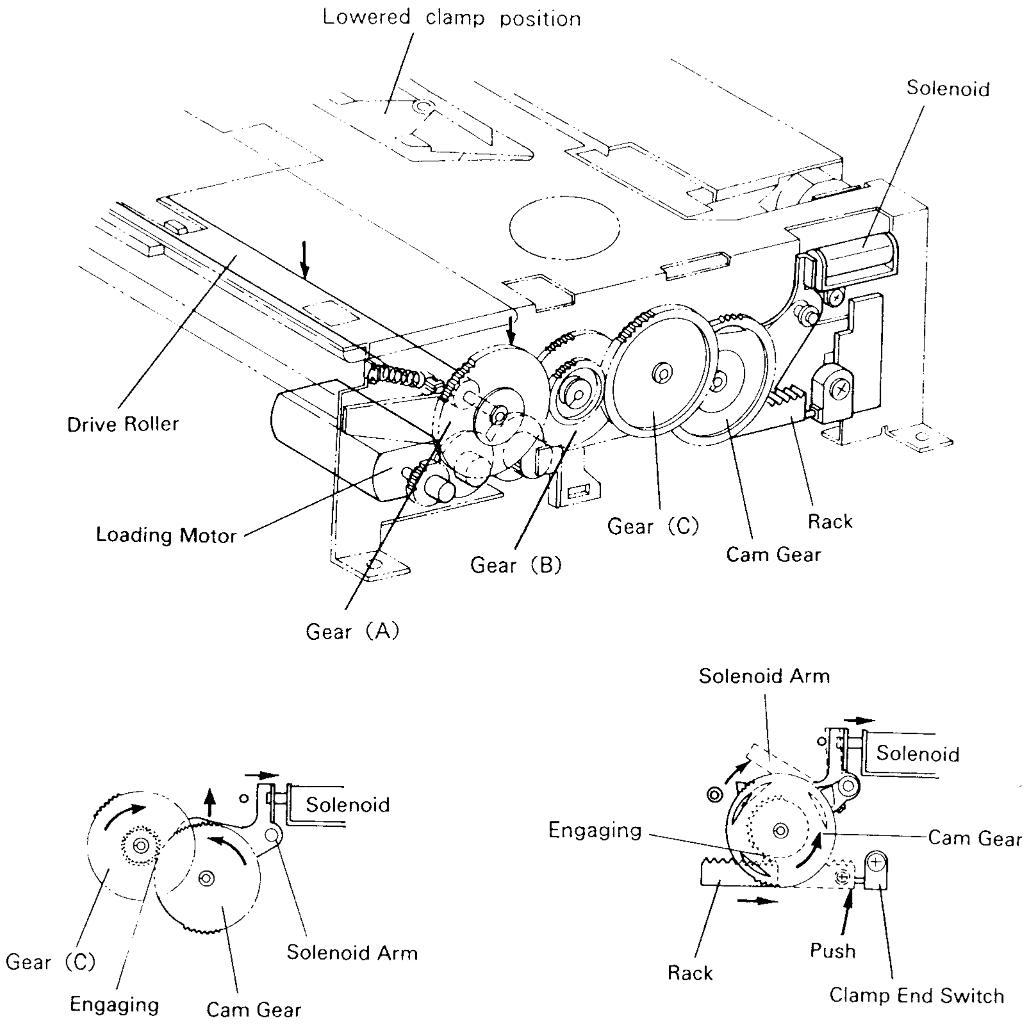

Lowered clamp position
Solenoid
Drive Roller
Loading Motor
Gear (A)
Gear (B)
Gear (C)
Cam Gear
Rack
Solenoid
Gear (C)
Engaging
Cam Gear
Solenoid Arm
Solenoid Arm
Solenoid
Engaging
Cam Gear
Rack
Push
Clamp End Switch

Figure 8

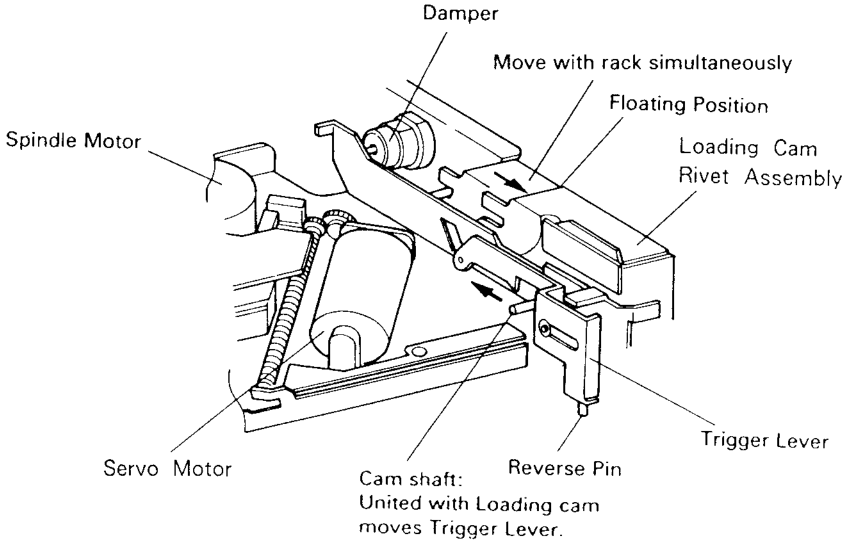

Damper
Move with rack simultaneously
Floating Position
Spindle Motor
Loading Cam
Rivet Assembly
Servo Motor
Reverse Pin
Trigger Lever
Cam shaft:
United with Loading cam
moves Trigger Lever.

Figure 9

Function	Step	Description	Illustration
PLAY	①	The spindle motor rotates the disc.	Figure 10
	②	The rotation of the servo motor is transmitted to the shaft screw through the gear, moves the pickup.	Figure 10
	③	The Inner limit switch detects the lead-in position of the disc, and the mechanism begins to read the information of the disc.	Figure 10

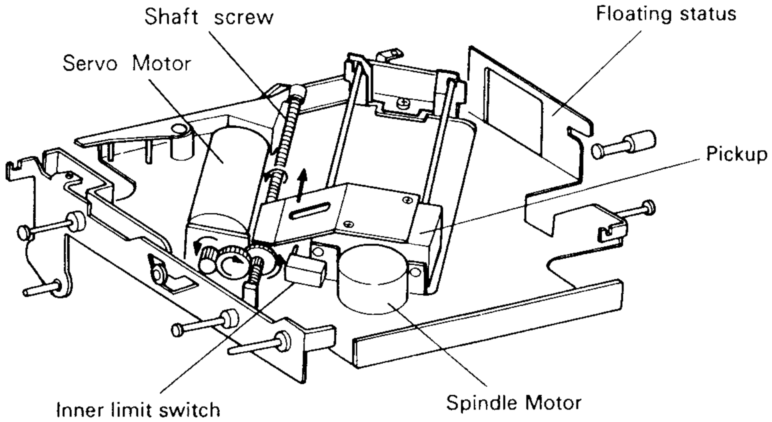


Figure 10

Function	Step	Description
EJECTION (of a 12cm CD)	①	The Loading motor rotates in the reverse direction when loading.
	②	Pulls the solenoid.
	③	The solenoid arm engaged with the solenoid starts rotating and the cam gear engages with the gear (C).
	④	The cam gear rotates and engages with the rack and then moves the rack in the left direction.
	⑤	Engaging with the movement of the rack, the following functions will be performed simultaneously. A. The clamper moves upward and releases the disc. B. The driving roller moves up and lifts the disc, and pinches the disc between it and the upper guide. C. Locks the pickup block. D. The reverse pin moves with engaging the levers (A) and (B), which moves the sensor gate mechanism to the original position.
	⑥	When the rack moves to the left, the engagements between the gear (C) and the cam gear, the cam gear and the rack will be released.

Function	Step	Description
EJECTION (of a 12cm CD)	⑦	The disc which is pinched between the drive roller and the upper guide moves to the outside of the mechanism. When the disc is sent out to the EJECT position, the beam broken by the disc is released and reaches the photo sensor (B).
	⑧	The mechanism detects that the disc has come out to the EJECT position and stops the motor rotation.
	⑨	The mechanism detects that all functions have finished when the disc is pulled out from the mechanism and beam is passed through to the photo sensor (A).
RELOAD (of a 12cm CD)	①	If the disc is not pulled out from the mechanism for 15 seconds after it comes to the EJECT position, the mechanism actuates the Loading function steps ① – ⑧.
EJECTION (of a 8cm CD)	① ② ③ ④	The same process as 12cm CD Eject operation steps ①~④.
	⑤	Engaging with the movement of the rack, the following functions will be performed simultaneously. A. B. C. — The same process as 12cm CD Eject operation step⑤ – A, B, C.
	⑥	The same process as 12cm CD Eject operation step ⑥.
	⑦	The disc which is pinched between the drive roller and the upper guide moves to the outside of the mechanism. The disc is released from the drive roller and stops.
	⑧	If the beam reaches the photo sensor (C) after 1.5 seconds from starting ejection, the motor stops.
	⑨	The mechanism detects that all functions have finished, when the disc is pulled out from the mechanism and beam is passed through to the photo sensor (A).

Function	Step	Description
TROUBLE SHOOTING (While Loading a 12cm CD)	①	If the beam to the photo sensor (D) is not broken within 3 seconds after the Loading motor begins rotating as described in the Loading operation step ②, the mechanism takes it as trouble and rotates the Loading motor inversely and pushes the disc out to the EJECT position.
	②	In the Loading step ④, if the beam does not reach the photo sensor (D) within 3 seconds after the beam to the photo sensor (B) is broken, the mechanism take it as trouble and rotates the loading motor inversely and push the disc out to the eject position. If the disc is removed and the beam reaches the photo sensor (A), the mechanism performs loading, chucking and ejection without a disc. (To place the sensor gate mechanism from the END position to the original position the mechanism operates the Ejection step ⑤−d)
	③	When the disc is pulled out during the loading process, the Loading motor rotates inversely and stops the rotating after certain seconds.
(While loading a 8cm CD)	①	The same process as 12cm CD loading operation step①.
	②	The same process as 12cm CD loading operation step③.
(While Chucking)	①	In the chucking operation (step ①) if the Clamp End Switch doesn't turn on within 3 seconds after the solenoid is pulled, the mechanism takes it as trouble and rotates the Loading motor inversely and pushes the disc out and stops at the EJECT position. When the disc doesn't come to the EJECT position, the motor stops the rotating after certain seconds.
(While Playing)	①	After disc chucking, if the mechanism is unable to read the information of the disc for some reason, it actuates the EJECTION operation steps.
(While Ejecting a 12cm CD)	①	If the disc doesn't come to the EJECT position within 5 seconds after the solenoid is pulled in the EJECTION operation step ①, the mechanism takes it as trouble and rotates the Loading motor inversely and performs the Loading operation steps.
(While Ejecting a 8cm CD)	①	If the beam does not reach the photo sensor (C) within 1.5 seconds after starting ejection, the motor continues rotating. If the beam does not reach the photo sensor (C) within 5 seconds after starting ejection, the mechanism takes it as trouble and changes the motor rotating direction and performs loading steps.

Disassembly Instructions

● For DP24A01O/DP24A02O/ DP24A11O/DP24A11A/ DP24A21O/DP24A22O models

1. Removal of the Load/Photo P. C. Boards

(1) Remove three screws marked with "○" as shown in Figures 11 and 12.

(2) Remove the solder (c) as shown in Figure 11.

2. Removal of the LED P. C. Board

(1) Remove the solder (b) as shown in Figure 12.

(2) Remove the screw marked with "▲" as shown in Figure 12.

3. Removal of the End Switch (A) P. C. Board

(1) Remove the two screws marked with "●" as shown in Figure 13.

(2) Remove the two lead wires from the solenoid.

4. Removal of the Pick-Up Unit

(1) Remove the cam gear and the gear (C) as shown in Figure 13.

(2) Remove the four screws marked with "※" as shown Figures 13 and 14.

(3) Both the Pick-Up Unit and Rivet Loading Bracket Assembly will be removed.

Note :The cam gear and gear (C) are mounted with washers. Do not lose the washers, keep them carefully.

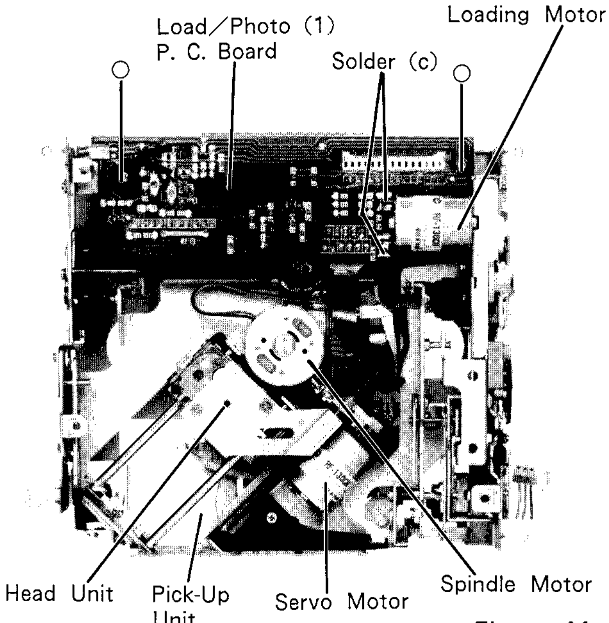

○
Load/Photo (1)
P. C. Board
Solder (c)
○
Loading Motor
Head Unit
Pick-Up
Unit
Servo Motor
Spindle Motor

Figure 11

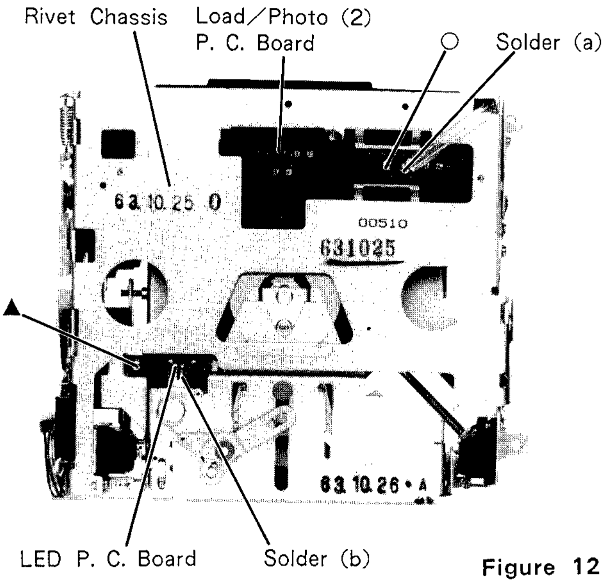

Rivet Chassis
Load/Photo (2)
P. C. Board
○
Solder (a)
▲
LED P. C. Board
Solder (b)

Figure 12

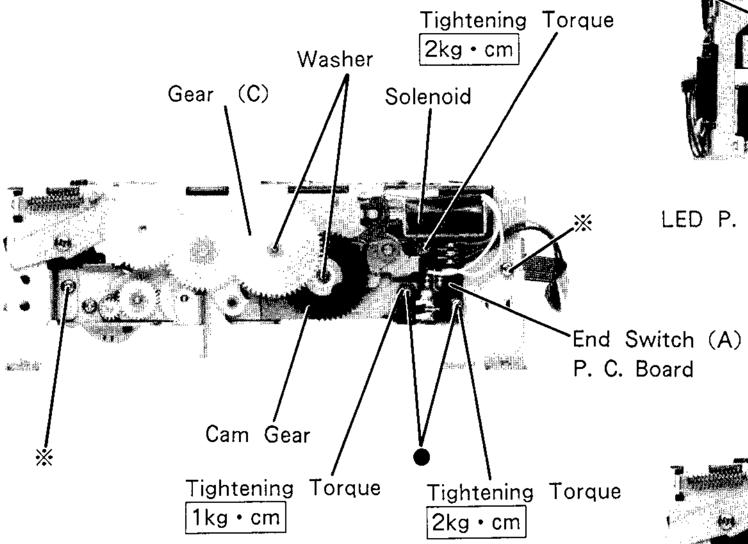

Tightening Torque
2kg • cm
Washer
Gear (C)
Solenoid
※
End Switch (A)
P. C. Board
Cam Gear
※
●
Tightening Torque
1kg • cm
Tightening Torque
2kg • cm

Figure 13

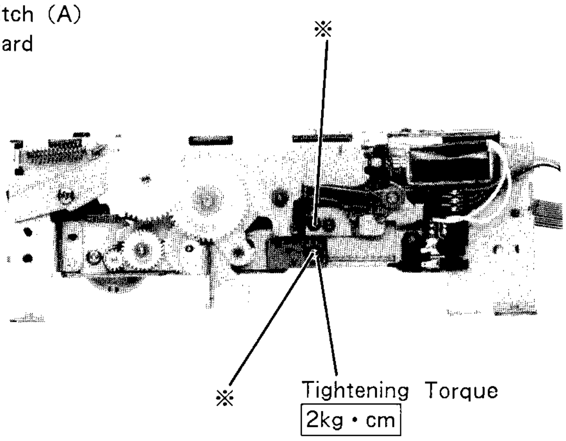

※
※
Tightening Torque
2kg • cm

Figure 14

5. **Removal of the Rivet Loading Bracket Assembly**
   (1) After removing the Pick-Up Unit, pull the Rivet Loading Bracket Assembly toward you while twisting it in the direction shown by the arrow, as shown in Figure 15.

6. **Removal of the Servo Motor [For DP24A010 / DP24A020 / DP24A110 / DP24A11A / DP24A210 models only]**
   (1) After removing the Rivet Loading Bracket Assembly, remove the two screws marked with "☐" as shown in Figure 16.

   Note :Both the Servo Motor and Flexible wire will be removed. Do not damage the flexible wire.

7. **Removal of the Head Unit [For DP24A010/DP24A020/DP24A110/DP24A11A/DP24A210 models only]**
   (1) After removing the Servo Motor, remove the two screws marked with "◆" as shown in Figure 16.

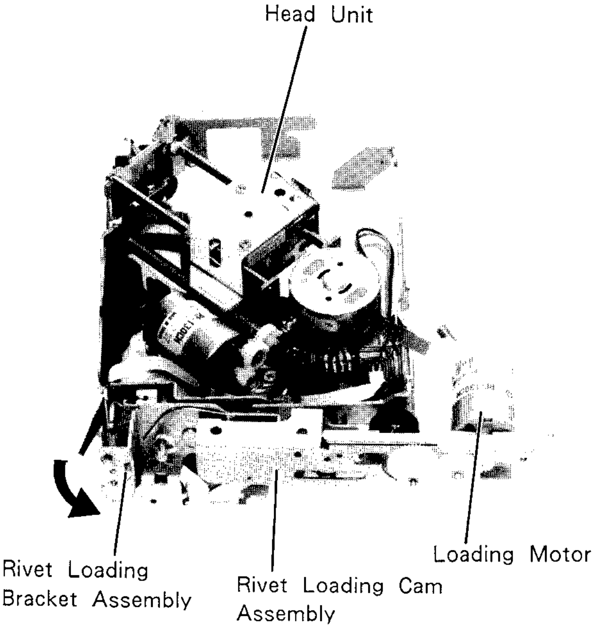

Head Unit
Rivet Loading Bracket Assembly
Rivet Loading Cam Assembly
Loading Motor

Figure 15

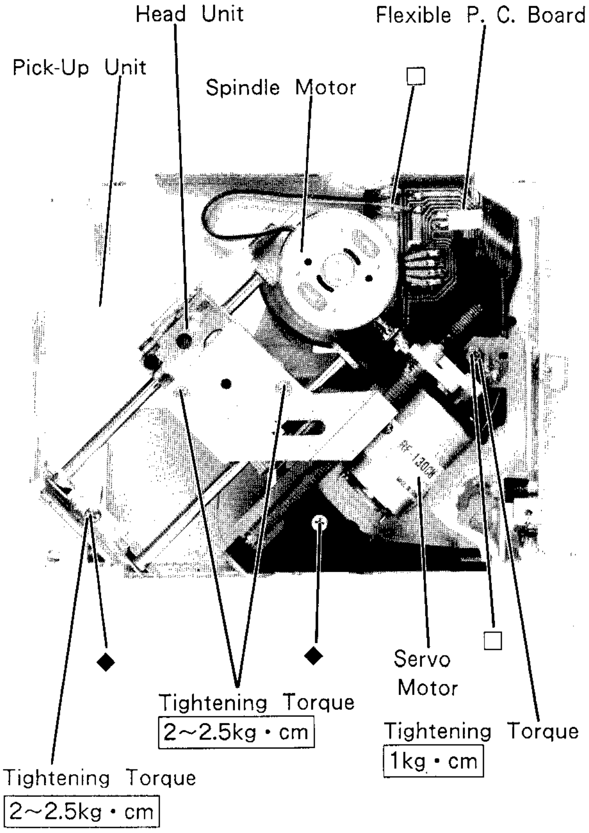

Head Unit
Flexible P. C. Board
Pick-Up Unit
Spindle Motor
☐
◆
◆
Servo Motor
☐
Tightening Torque
2~2.5kg・cm
Tightening Torque
1kg・cm
Tightening Torque
2~2.5kg・cm

Figure 16

6. Removal of the Servo Motor [For DP24A220 models only]

(1) After removing the Rivet Loading Bracket Assembly, remove the two screws marked with “□” as shown in Figure 17.

Note :Both the Servo Motor and Flexible wire will be removed. Do not damage the flexible wire.

7. Removal of the Head Unit [For DP24A220 models only]

(1) After removing the Servo Motor, remove the five screws marked with “◆” as shown in Figure 17.

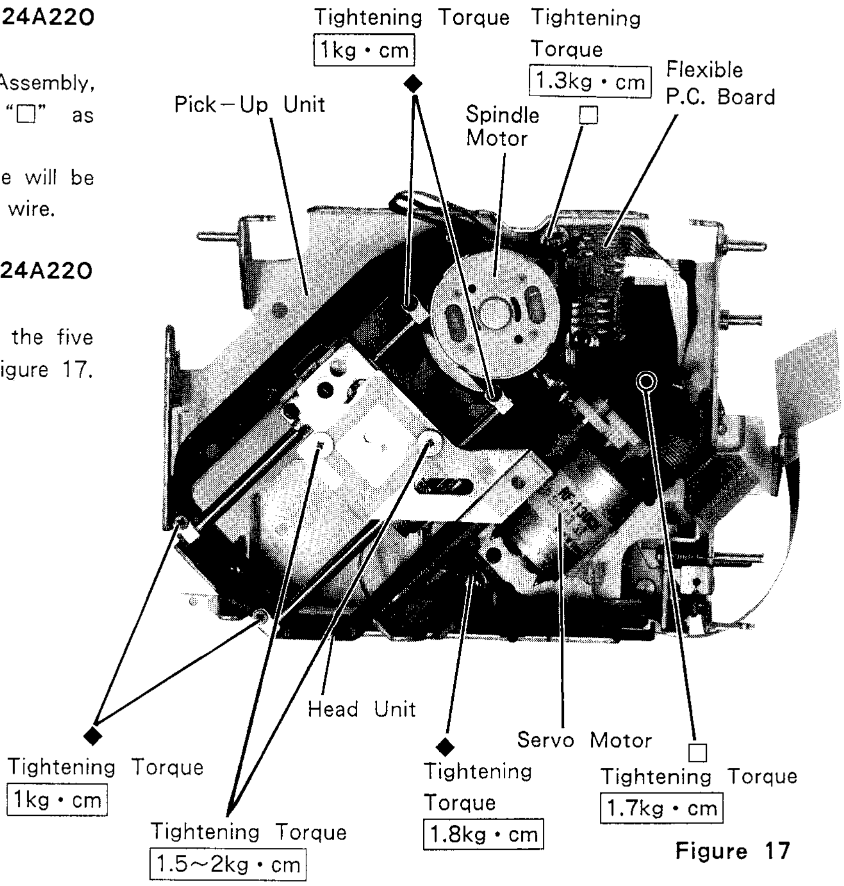

Tightening Torque
1kg · cm
◆
Tightening Torque
1.3kg · cm
Flexible P.C. Board
Pick−Up Unit
Spindle Motor
□
Head Unit
◆
Servo Motor
□
◆
Tightening Torque
1kg · cm
Tightening Torque
1.8kg · cm
Tightening Torque
1.7kg · cm
Tightening Torque
1.5~2kg · cm

Figure 17

8. Removal of the Rivet Loading Cam Assembly

(1) After removing the Rivet Loading Bracket Assembly, remove the gear (D) and gear (E) as shown in Figure 18.

(2) Remove the Washer and “E” ring as shown in Figures 18 and 20.

Note : 1) Do not lose the washer and “E” ring and keep them carefully.

2) Remove the spring and them at the same time as shown in Figure 18.

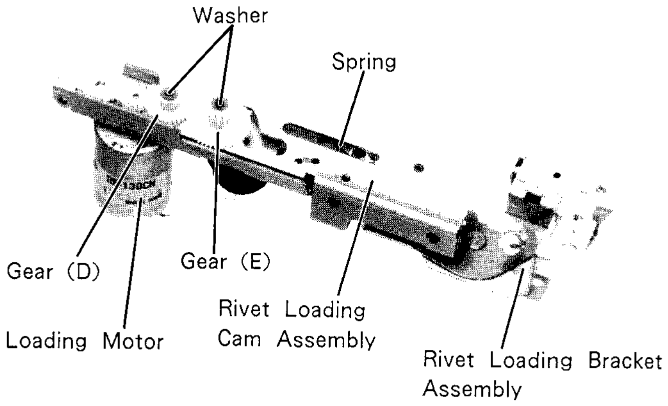

Washer
Spring
Gear (D)
Gear (E)
Loading Motor
Rivet Loading Cam Assembly
Rivet Loading Bracket Assembly

Figure 18

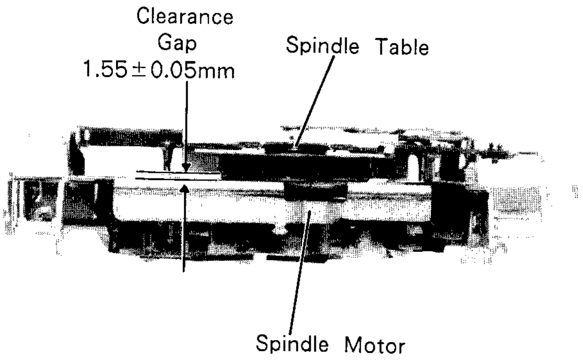

Clearance Gap 1.55±0.05mm
Spindle Table
Spindle Motor

Figure 19

9. Removal of the Loading Motor.

(1) After removing the Rivet Loading Cam Assembly, remove the two screws marked with "△" as shown in Figure 20.

※Useful hints for remounting the cam gear and gear (C).

(1) Set the Rivet Loading cam Assembly to the loading position as shown in Figure 21.

(2) Engage the cam gear with the gear (C) as shown in the Figure 22, and mount them on the shafts (A) of the Arm Load (R) Assembly as shown in Figure 21.

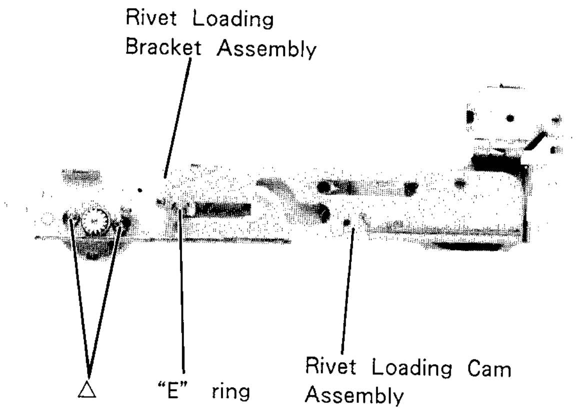

Rivet Loading Bracket Assembly
△
"E" ring
Rivet Loading Cam Assembly

Figure 20

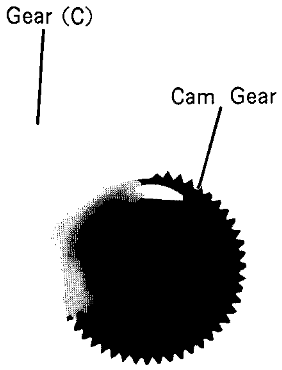

Gear (C)
Cam Gear

Figure 22

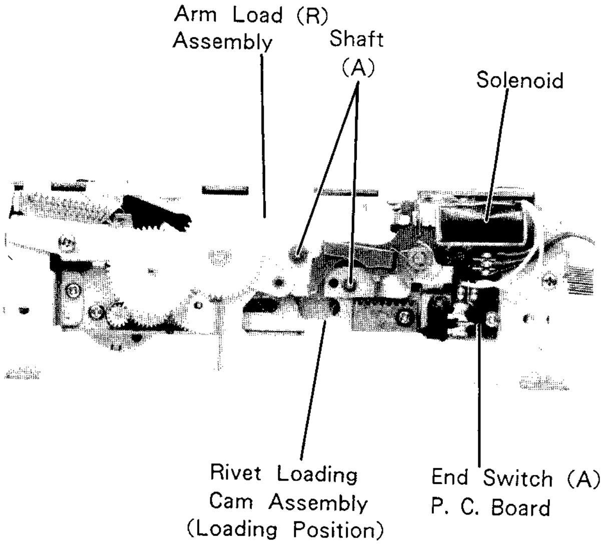

Arm Load (R) Assembly
Shaft (A)
Solenoid
Rivet Loading Cam Assembly (Loading Position)
End Switch (A) P. C. Board

Figure 21

※Caution on remounting the Servo Motor.

(1) After mounting the servo motor, make sure the clearance between the servo motor and flexible wire is more than 0.5mm as shown in Figure 23.

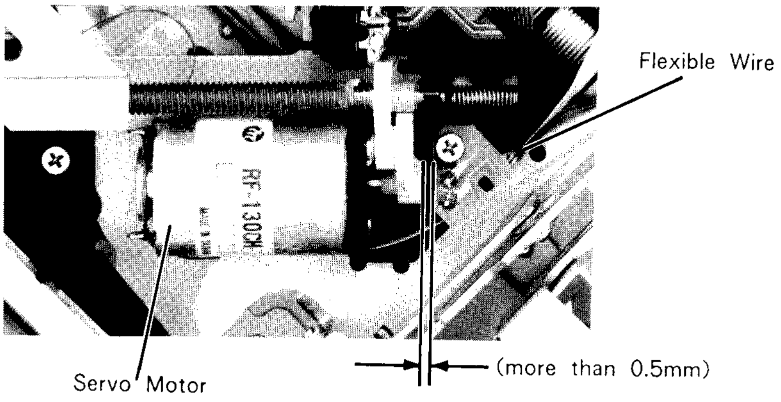

Flexible Wire
Servo Motor
(more than 0.5mm)
RF-130CH

Figure 23

CD Mechanism Assembly Parts List

●For DP24A010/DP24A020/DP24A110/DP24A11A/DP24A210 Models

Symbol No.	Index	Part No.	Description		
202	4-H	15C13518W01	Guide, Top (DP-2)		
203	5-C	03S44205G14	Screw, Pan (M2 × 5)		
204	5-B	30T73687F18	Parallel Wire (2P)		
205	4-C	41B12249W02	Spring, Pull		
206		04B41345P06	Washer, Lock (M2.1)		
207	1-E	41A20219W01	Spring, ROL (L)		
208	5-F	45A90817F01	Arm, Solenoid (1)		
209	5-F	45A90818F01	Arm, Solenoid (2)		
210	5-F	41A92364F01	Spring, Solenoid		
211	2-F	07B10907W01	Stopper, Disc		
212	4-F	47A61544F02	Plunger, RF Solenoid		
213	3-G	75A20934W01	Cushion, Magnet (B)		
214	4-F	84A92276F01	END Switch (A) P.C. Board		
215		03D40014G66	Screw, W/Washer (M2 × 3.5)		
216		03D40014G07	Screw, W/Washer (M2 × 4)		
217	4-F	44B90838F01	Gear, Cam		
218	4-C	46A91007F02	Stud, Gear		
219	4-E	41B12249W07	Spring, Pull		
221	2-F	49B90822F01	Roller (G)		
223		43A90873F01	Bush, Roller		
225	4-C	41A90877F01	Spring, Cam		
226		03D40014G62	Screw, W/Washer (M2 × 3)		
227	5-C	44A90836F01	Gear (D)		
228	5-C	44A90837F01	Gear (E)		
229	5-C	04B41345P01	Washer, Lock (M1.2)		
230		75B11922W02	Damper, DP-3		
231		15A12929W01	Holder, Damper-3		
232	4-D	04C42091G06	Ring “E” (M1.5)		
233	5-C	04C42091G11	Ring “E” (M2.5)		
234	3-C	03S94385F01	Screw, Pan (M1.7 × 2.3)		
236	4-C	41A11905W01	Spring, Trigger		
237	4-F	04C42091G05	Ring “E” (M2)		
238	2-B	07A10921W01	Bracket, Shaft		
239	4-A	03A90175F05	Screw, Bind (M2 × 3.7)		
240		03S94385F09	Screw, Pan (M2 × 3)		
241	4-A	03D40014G75	Screw, W/Washer (M2 × 9)		
242	3-B	03D40121T38	Screw, W/Double Washer (M2 × 5)		
243	3-E	43A22104W01	Table, Spindle		
244	3-B	07B10923W01	Bracket, Screw		
245	2-C	47A20146W01	Shaft, Pick-up		
246	4-D	43A11901W01	Bush, Triger (A)		
247		04B41345P15	Washer, Lock (M1.2)		
248	3-D	01B12125W01	Assy., Riv. Pick Chassis		
249	3-B	47A10927W01	Shaft, Screw		
250	3-B	44A90998F01	Gear, Screw		
252	4-B	44A90996F01	Gear, Motor		
253	4-G	41B12249W08	Spring, Pull		
254	4-C	44A90997F01	Gear, Middle		
255		04B41345P02	Washer, Lock (M1.7)		
256	4-F	03S94385F23	Screw, Pan (M2 × 5)		
257	5-D	03S94385F07	Screw, Pan (M2 × 2)		
258	3-C	07C10922W01	Bracket, Motor		
259	4-B	41A10928W03	Spring, Shaft		
262	5-G	04S40075G12	Washer, Polyslider (M3.1)		
263	3-B	41C10925W01	Spring, Nut		
264	3-E	14A96087F01	Sheet, Table		
265	4-B	84T15149W01	FPC Actuate P.C.Board		
266	4-E	01A12222W01	Assy., Clamper Rivet		
267	4-E	01B12123W01	Assy., Riv. Arm Clamp		
269	3-F	41A11903W01	Spring, Lever		
270	3-F	04B41345P04	Washer, Lock (M2.6)		
271	3-E	07A30152W01	Bracket, Disc Stopper		
272	3-F	41B12249W01	Spring, Pull		
273	4-F	07A11468W01	Plate, Top		
274	5-C	44A90830F01	Rack, Cam		
275	4-F	03S44205G94	Screw, Pan (M1.7 × 2)		
277	2-B	47A21175W01	Shaft, Pick-up		
279	1-C	41B12249W03	Spring, Pull		
280	2-E	41B12249W04	Spring, Pull		
281	4-D	41B12249W05	Spring, Pull		

NOTE : The parts without part numbers are not supplied.

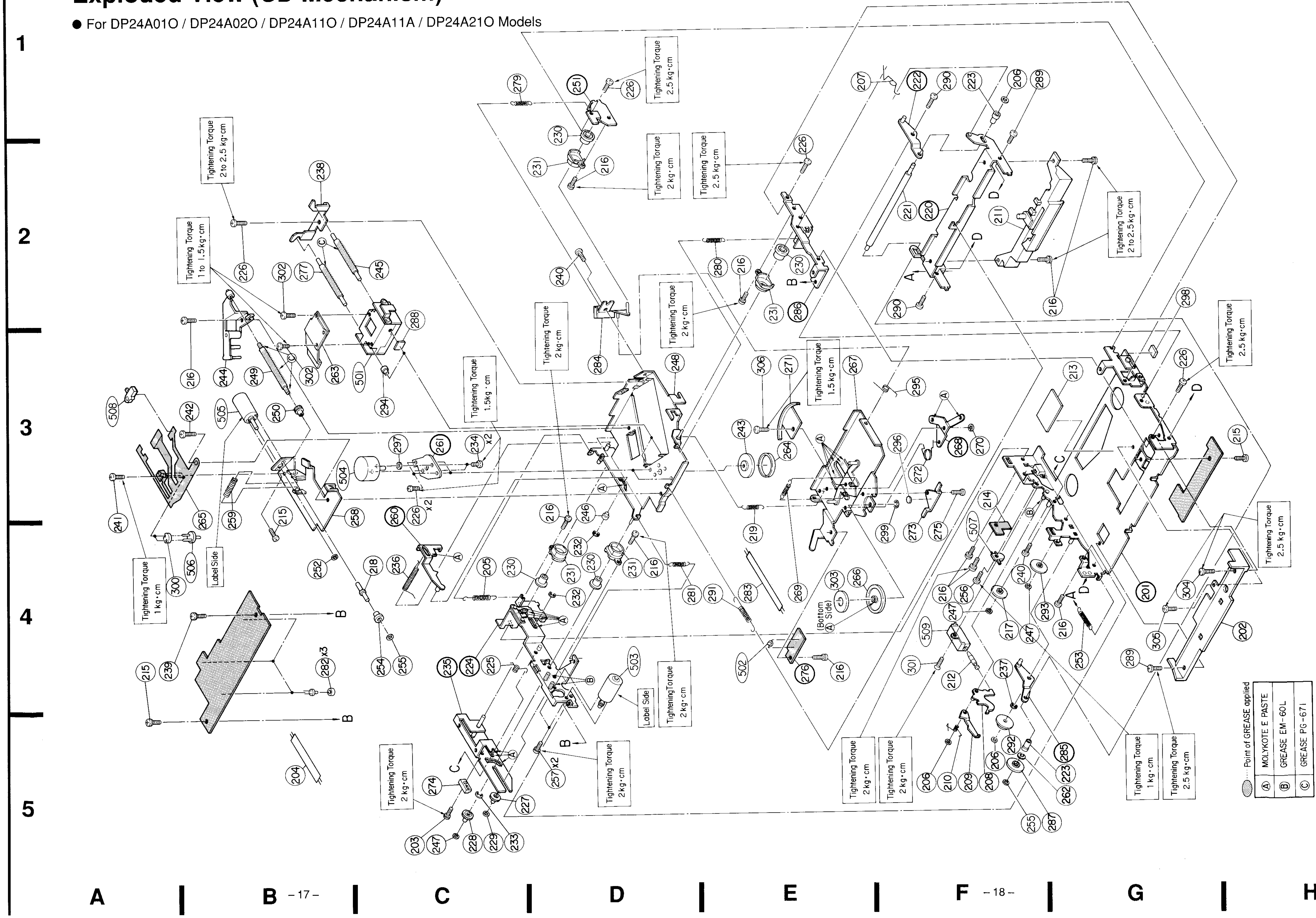
Symbol No.	Index	Part No.	Description		
282	4-B	43A20208W01	Spacer, LED		
283	4-E	30T73687F19	Parallel Wire (2P)		
284	3-D	01A92321F02	Assy., Bracket		
			Rivet (CLP−LP)		
287	5-G	01T15181W01	Assy., Clutch DP		
288	2-C	75A21138W01	Sheet, Shaft		
289		03A90175F01	Screw, Bind (M2 × 4)		
290		03A90175F02	Screw, Bind (M2 × 3)		
291	4-E	41B90875F07	Spring, Pull		
292	5-F	44A90834F01	Gear (B)		
293	4-F	44A90835F01	Gear (C)		
294	3-C	43A13508W01	Spacer, Shaft		
295	3-F	41A96086F01	Spring, Arm Clamp		
296	3-F	43A41006F01	Spacer, Polyslider		
297	3-C	43A22457W01	Spacer		
or		43A22457W02	Spacer		
298	2-G	75A20928W01	Rubber, Top Chassis		
299	4-F	04B41345P24	Washer, Lock (M2.1)		
300	4-A	43A20208W02	Spacer, LED (A)		
301	4-F	03S94385F14	Screw, Countersink (M2.6 × 3)		
302		03S94385F25	Screw, Pan (M2 × 4)		
303	4-E	75A20128W01	Sheet, Holder		
304	4-G	03S44205G96	Screw, Bind (M2 × 5)		
305	4-G	03S44205G95	Screw, Bind (M2 × 3)		
306	3-E	03S94385F24	Screw, Pan (M2 × 3)		
Miscellaneous					
501	3-C	88T15309W01	Pick-up, Unit		
502	4-E	48T16057W02	LED, AN501 (RED)		
503	4-D	01V13100W97	Assy., Motor Load		
504	3-C	59T91005F01	Motor, Spindle		
505	3-B	59T52973F03	Motor, Servo		
506	4-B	48T92913F01	Transistor, Photo PT360		
507	4-F	40T71025F03	Switch, Detector (CAM END)		
508	3-A	40T71025F01	Switch, Detector (LIMIT)		
509	4-F	01A90816F01	Assy., Solenoid DP Frame		

Symbol No.	Index	Part No.	Description		

NOTE : The parts without part numbers are not supplied.

Exploded View (CD Mechanism)

● For DP24A01O / DP24A02O / DP24A11O / DP24A11A / DP24A21O Models



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Tightening Torque 1 to 1.5kg·cm
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⬭ ···· Point of GREASE applied

Ⓐ MOLYKOTE E PASTE

Ⓑ GREASE EM-60L

Ⓒ GREASE PG-671

CD Mechanism Assembly Parts List

●For DP24A220 Model

Symbol No.	Index	Part No.	Description		
202	4-H	15C13518W01	Guide, Top (DP−2)		
203	5-C	03S44205G14	Screw, Pan (M2 × 5)		
204	5-B	30T73687F18	Parallel Wire (2P)		
205	4-C	41B12249W02	Spring, Pull		
206		04B41345P06	Washer, Lock (M2.1)		
207	1-E	41A20219W01	Spring, ROL (L)		
208	5-F	45A90817F01	Arm, Solenoid (1)		
209	5-F	45A90818F01	Arm, Solenoid (2)		
210	5-F	41A92364F01	Spring, Solenoid		
211	2-F	07B10907W01	Stopper, Disc		
212	4-F	47A61544F02	Plunger, RF Solenoid		
213	3-G	75A20934W01	Cushion, Magnet (B)		
214	3-F	84A92276F01	END Switch (A) P.C. Board		
215		03D40014G66	Screw, W/Washer (M2 × 3.5)		
216		03D40014G07	Screw, W/Washer (M2 × 4)		
217	4-F	44B90838F01	Gear, Cam		
218	4-C	46A91007F02	Stud, Gear		
219	4-E	41B12249W07	Spring, Pull		
221	2-F	49B90822F01	Roller (G)		
223		43A90873F01	Bush, Roller		
225	4-C	41A90877F01	Spring, Cam		
226		03D40014G62	Screw, W/Washer (M2 × 3)		
227	5-C	44A90836F01	Gear (D)		
228	5-C	44A90837F01	Gear (E)		
229	5-C	04B41345P01	Washer, Lock (M1.2)		
230		75B11922W02	Damper, DP−3		
231		15A12929W01	Holder, Damper−3		
232		04C42091G06	Ring "E" (M1.5)		
233	5-C	04C42091G11	Ring "E" (M2.5)		
234	3-C	27C30861W01	Base, Pick-up		
236	4-C	41A11905W01	Spring, Trigger		
237	4-F	04C42091G05	Ring "E" (M2)		
238	3-D	03S94385F26	Screw Countersink (M1.7×2.6)		
239	4-A	03A90175F05	Screw, Bind (M2 × 3.7)		
240		03S94385F09	Screw, Pan (M2 × 3)		

NOTE : The parts without part numbers are not supplied.

Symbol No.	Index	Part No.	Description		
241	4-A	03S94385F20	Screw, Pan (M2 × 8.5)		
242	3-B	03D40121T38	Screw, W/Double Washer (M2 × 5)		
243	3-E	43A30923W01	Table, Spindle		
244	3-B	07B10923W01	Bracket, Screw		
245		47A30925W01	Shaft, Pick-up		
246	4-D	43A11901W01	Bush, Triger (A)		
247		04B41345P15	Washer, Lock (M1.2)		
248	3-D	01B12125W01	Assy., Riv. Pick Chassis		
249	3-B	47A10927W02	Shaft, Screw		
250	3-B	44A90998F01	Gear, Screw		
252	4-B	44A90996F01	Gear, Motor		
253	4-G	41B12249W08	Spring, Pull		
254	4-C	44A90997F01	Gear, Middle		
255		04B41345P02	Washer, Lock (M1.7)		
256	4-F	03S94385F23	Screw, Pan (M2 × 5)		
257	5-D	03S94385F07	Screw, Pan (M2 × 2)		
258	3-C	07C10922W01	Bracket, Motor		
259	4-B	41A10928W03	Spring, Shaft		
261		03D40014G02	Screw, W/Washer (M2 × 6)		
262	3-E	41A10928W04	Spring, Comp		
263	3-B	41C10925W02	Spring, Nut		
264	3-E	14A96087F01	Sheet, Table		
265	4-B	84T15149W01	FPC Actuate P.C.Board		
266	4-E	01A31429W01	Assy., Clamper Rivet		
267	3-E	01B12123W01	Assy., Riv. Arm Clamp		
269	4-E	41A11903W01	Spring, Lever		
270	3-F	04B41345P04	Washer, Lock (M2.6)		
271	3-E	07A30152W01	Bracket, Disc Stopper		
272	3-F	41B12249W01	Spring, Pull		
273	4-F	07A11468W01	Plate, Top		
274	5-C	44A90830F01	Rack, Cam		
275	4-F	03S44205G94	Screw, Pan (M1.7 × 2)		
277	3-E	43B30924W01	Spindle, Hub		
279	1-C	41B12249W03	Spring, Pull		
280	2-E	41B12249W04	Spring, Pull		

Symbol No.	Index	Part No.	Description		
281	4-D	41B12249W05	Spring, Pull		
282	4-B	43A20208W01	Spacer, LED		
283	4-E	30T73687F19	Parallel Wire (2P)		
284	3-D	01A92321F02	Assy., Bracket Rivet (CLP−LP)		
287	5-G	01T15181W01	Assy., Clutch DP		
288		07A30961W01	Stopper, Shaft (B)		
289		03A90175F01	Screw, Bind (M2 × 4)		
290		03A90175F02	Screw, Bind (M2 × 3)		
291	4-E	41B90875F07	Spring, Pull		
292	5-F	44A90834F01	Gear (B)		
293	4-F	44A90835F01	Gear (C)		
294		03S70494F14	Screw, Pan (M1.7 × 4)		
295	3-F	04S40075G06	Washer, Plyslider (M2.1)		
296	3-F	43A41006F01	Spacer, Polyslider		
297	3-E	03S94385F24	Screw, Pan (M2 × 3)		
298	2-G	75A20928W01	Rubber, Top Chassis		
299	4-F	04B41345P24	Washer, Lock (M2.1)		
300	4-A	43A20208W02	Spacer, LED (A)		
301	4-F	03S94385F14	Screw, Countersink (M2.6 × 3)		
302	2-B	03S94385F25	Screw, Pan (M2 × 4)		
303	4-E	75A20128W01	Sheet, Holder		
304	4-G	03S44205G96	Screw, Bind (M2 × 5)		
305	4-G	03S44205G95	Screw, Bind (M2 × 4)		

Miscellaneous

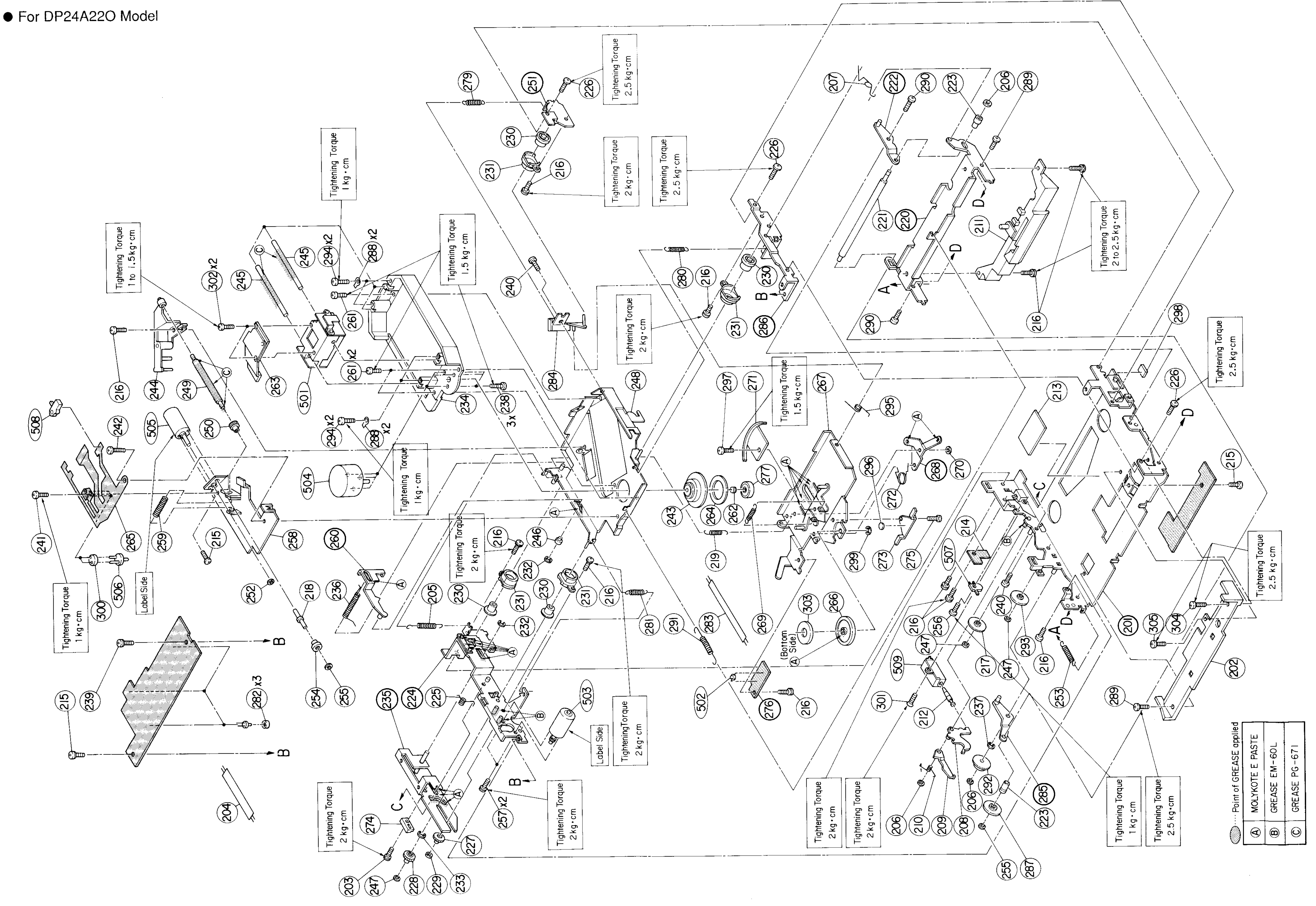
501	3-C	88T15309W01	Pick-up, Unit		
502	4-E	48T16057W02	LED, AN501 (RED)		
503	4-D	01V13100W97	Assy., Motor Load		
504	3-C	59T91005F02	Motor, Spindle		
505	3-B	59T52973F03	Motor, Servo		
506	4-B	48T92913F01	Transistor, Photo PT360		
507	4-F	40T71025F03	Switch, Detector (CAM END)		
508	3-A	40T71025F01	Switch, Detector (LIMIT)		
509	4-F	01A90816F01	Assy., Solenoid DP Frame		

NOTE : The parts without part numbers are not supplied.

Symbol No.	Index	Part No.	Description		

Exploded View (CD Mechanism)

- For DP24A22O Model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	Point of GREASE applied
Ⓐ	MOLYKOTE E PASTE
Ⓑ	GREASE EM-60L
Ⓒ	GREASE PG-671

CD Mechanism Assembly Parts List

● For DP22A070/DP22A080/DP22A310/DP22A320 Models

Symbol No.	Index	Part No.	Description		
202	4-H	15C13518W01	Guide, Top (DP-2)		
203	5-C	03S44205G14	Screw, Pan (M2×5)		
204	5-B	30T73687F18	Parallel, Wire (2P)		
205		03A90175F01	Screw, Bind (M2×4)		
206		04B41345P06	Washer, Lock (M2.1)		
207	1-E	41A20219W01	Spring, ROL		
208	5-F	45A90817F01	Arm, Solenoid. (1)		
209	5-F	45A90818F01	Arm, Solenoid. (2)		
210	5-F	41A92364F01	Spring, Solenoid.		
□ 211	2-F	07B10907W02	Stopper, Disc		
☆ 211	2-F	07B10907W02	Stopper, Disc		
◇ 211	2-F	07B10907W02	Stopper, Disc		
212	4-F	47A61544F02	Plunger, F/R		
213	4-F	03S94385F14	Screw, Countersink (M2.6×3)		
214	4-F	84A92276F01	END Switch (A) P.C. Board		
215		03D40014G66	Screw, W/Washer (M2×3.5)		
216		03D40014G07	Screw, W/Washer (M2×4)		
217	4-F	44B90838F01	Gear, Cam		
218	4-B	46A91007F01	Stud, Gear		
219	4-E	41B12249W07	Spring, Pull		
221	2-F	49B90822F01	Roller (G)		
223		43A90873F01	Bush, Roller		
225	4-C	41A90877F01	Spring, Cam		
226		03D40014G62	Screw, W/Washer (M2×3)		
227	5-C	44A90836F01	Gear (D)		
228	5-C	44A90837F01	Gear (E)		
229	5-C	04B41345P01	Washer Lock (M1.2)		
230		75B11922W02	Damper, DP-3		
231		15A12929W01	Holder, Damper DP-3		
232		04C42091G06	Ring "E" (M1.5)		
233		04C42091G11	Ring "E" (M2.5)		
234	3-D	03S94385F01	Screw, Pan (M1.7×2.3)		
236	4-B	41A11905W01	Spring, Trigger		
237	3-F	04B41345P04	Washer, Lock (M2.6)		
239		04B41345P24	Washer, Lock (M2.1)		
240		03S94385F09	Screw, Pan (M2×3)		
241		04B41345P15	Washer, Lock (M1.2)		
242	3-F	30T73687F14	Parallel, Wire (3P)		
243	3-E	43A22104W01	Table, Spindle		
244	3-A	07A90992F01	Bracket, Screw		
245	3-D	47A91004F01	Shaft, Pick-up		
246	4-D	43A11901W01	Bush, Trigger (A)		
247		03S94385F10	Screw, Pan (M2×4)		
248	3-E	07A92196F01	Bracket, Flex Wire		
249	3-C	03A91001F01	Shaft, Screw		
250	3-C	44A90998F01	Gear, Screw		
252	4-B	44A90996F01	Gear, Motor		
253	4-G	41B12249W08	Spring, Pull		
254	4-B	44A90997F01	Gear, Middle		
255	4-B	04B41345P13	Washer, Lock (M1.7)		
256	4-F	03S94385F23	Screw, Pan (M2×5)		
△ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)		
□ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)		
◇ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)		
258	3-B	01V91700F07	Assy., Motor Unit		
259	3-A	41A90999F01	Spring, Screw		
261	1-C	41B21241W02	Spring, Pull		
262	2-C	30T92773F01	Cable, Flex (16P)		
263	2-B	26A94948F01	Shield		
△ 263	2-B	26A94948F01	Shield		
□ 263	2-B	26A94948F01	Shield		
◇ 263	2-B	26A94948F01	Shield		

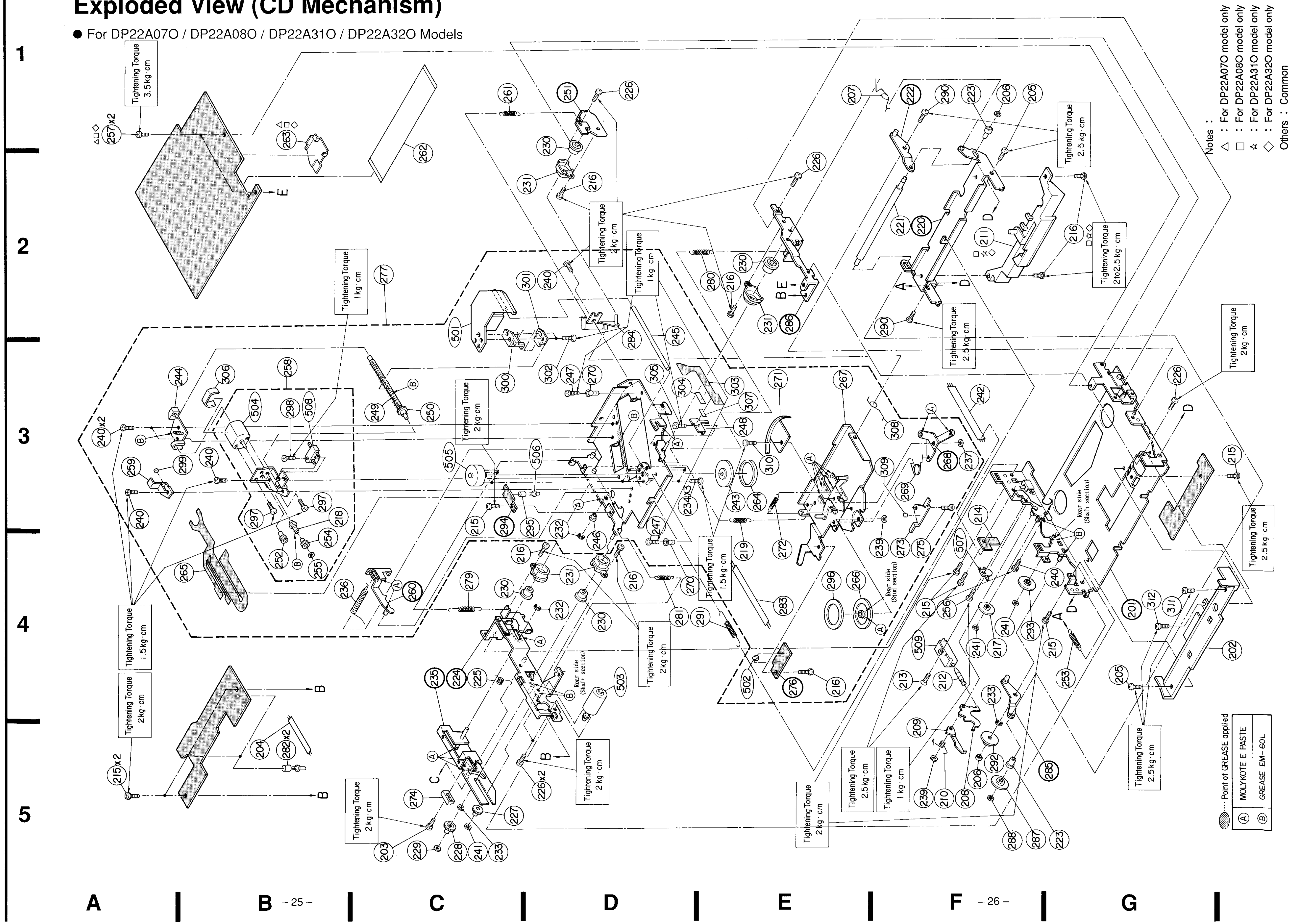
Notes : The parts without part numbers are not supplied.
△ : For DP22A070 model only, □ : For DP22A080 model only, ☆ : For DP22A310 model only,
◇ : For DP22A320 model only, Others : Common

Symbol No.	Index	Part No.	Description		
264	3-E	14A96087F01	Sheet, Table		
265	4-B	84T15747W01	FPC Actuator P. C. Board		
266	4-E	01A12222W01	Assy., Clamper Rivet		
267	3-E	01B12123W01	Assy., Riv. Arm Clamp		
269	3-F	41B12249W01	Spring, Slider		
270		43A90995F01	Stopper, Shaft		
271	3-E	07A30152W01	Bracket, Disc Stopper		
272	4-E	41A11903W01	Spring, Lever		
273	4-F	07A11468W01	Plate, Top		
274	5-C	44A90830F01	Rack, Cam		
275	4-F	03S44205G94	Screw, CounterSink (M2.6 × 8)		
△ 277	2-C	01V23100W27	Assy., Pick-up Unit-S2		
□ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2		
☆ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2		
◇ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2		
279	4-C	41B21241W01	Spring, Pull		
280	2-E	41B21241W03	Spring, Pull		
281	4-D	41B21241W04	Spring, Pull		
282	5-B	43A20208W01	Spacer, LED		
283	4-E	30T73687F20	Parallel, Wire (2P)		
284	3-D	01A92321F02	Assy., Bracket, Rivet (CLP-LP)		
287	5-F	01T15181W01	Assy., DP Clutch		
288	5-F	04B41345P02	Washer, Lock (M1.7)		
290		03A90175F02	Screw, Bind (M2×3)		
291	4-E	41B90875F07	Spring, Pull		
292	5-F	44A90834F01	Gear (B)		
293	4-F	44A90835F01	Gear (C)		
295	4-D	43A20208W03	Spacer, LED (A)		
296	4-E	75A20128W01	Sheet, Holder		
297		03S94385F10	Screw, Pan (M2×4)		
298	3-B	03S94385F12	Screw, Pan (M2.6×6)		
299	3-A	43A41006F05	Spacer, Polyslider		
300	3-C	07A90993F01	Bracket, Pick-up		
301	2-D	01A90994F01	Spring, Nut		
302	3-D	03S94385F03	Screw, Pan (M1.7×1.8)		
303	3-E	84T90887F01	FPC PHOTO P. C. Board		
304	3-D	14S71058F40	Insulator, Cover		
305	3-D	03S94385F06	Screw, Pan (M2×1.8)		
306	3-B	41A94452F01	Spring, Motor		
307	3-E	14A28008W01	Spacer		
308	3-F	41A96086F01	Spring, Arm Clamp		
309	3-F	43A41006F01	Spacer, Polyslider		
310	3-E	03S94385F24	Screw, Pan (M2 × 3)		
311	4-G	03S44205G96	Screw, Bind (M2 × 5)		
312	4-G	03S44205G95	Screw, Bind (M2 × 4)		
Miscellaneous					
501	3-C	88T90878F01	Pick-up, Unit		
502	4-E	48T16057W02	LED, AN501-B1 (RED)		
503	4-D	01V21900W45	Assy., Motor Load		
504	3-B	59T90879F01	Motor, Servo		
505	3-C	59T91005F01	Motor, Spindle		
506	3-D	48T92913F01	Transistor, Photo PT360		
507	4-F	40T71025F03	Switch, Detector		
508	3-B	40T71025F01	Switch, Detector		
509	4-F	01A90816F01	Assy., Solenoid DP Frame		

Notes : The parts without part numbers are not supplied.
△ : For DP22A070 model only, □ : For DP22A080 model only, ☆ : For DP22A310 model only,
◇ : For DP22A320 model only, Others : Common

Exploded View (CD Mechanism)

- For DP22A07O / DP22A08O / DP22A31O / DP22A32O Models



1
2
3
4
5
A
B
C
D
E
F
G
H
Tightening Torque 3.5 kg·cm
257 x2
263
262
E
Tightening Torque 1 kg·cm
277
261
251
226
230
231
216
Tightening Torque 2 kg·cm
240
301
501
300
302
284
247
270
245
Tightening Torque 1 kg·cm
280
216
230
231
286
B E
207
222
290
223
206
205
Tightening Torque 2.5 kg·cm
221
220
211
216
Tightening Torque 2 to 2.5 kg·cm
D
A
290
Tightening Torque 2.5 kg·cm
Tightening Torque 2 kg·cm
226
240 x2
244
306
258
504
298
508
249
250
299
240
259
240
297
297
218
252
254
255
265
236
260
505
Tightening Torque 2 kg·cm
506
215
294
295
232
246
247
216
305
304
303
307
248
310
234 x3
243
264
219
272
271
267
308
268
237
309
269
239
273
275
242
214
507
215
240
Rear side (Shaft section)
201
312
311
202
Tightening Torque 2.5 kg·cm
279
230
231
232
230
216
270
281
291
283
296
266
Rear side (Stud section)
256
241
217
293
215
253
509
241
213
212
209
233
206
292
287
288
223
285
239
210
208
205
Tightening Torque 2.5 kg·cm
Tightening Torque 2.5 kg·cm
Tightening Torque 1 kg·cm
Tightening Torque 2 kg·cm
502
276
216
Tightening Torque 2 kg·cm
Tightening Torque 1.5 kg·cm
Tightening Torque 1.5 kg·cm
235
224
225
503
Rear side (Shaft section)
226 x2
Tightening Torque 2 kg·cm
Tightening Torque 2 kg·cm
215 x2
204
282 x2
B
B
C
274
203
229
228
241
233
227
Tightening Torque 2 kg·cm

Notes :
△ : For DP22A07O model only
□ : For DP22A08O model only
☆ : For DP22A31O model only
◇ : For DP22A32O model only
Others : Common

▨ ··· Point of GREASE applied

Ⓐ	MOLYKOTE E PASTE
Ⓑ	GREASE EM-60L

Disassembly Instructions

● For DP22A070/DP22A080/DP22A310/DP22A320 models

1. Removal of Main P. C. Board

(1) Unsolder the solder (a) as shown in Figure 24.

(2) Remove two screws marked "○" as shown in Figure 24.

(3) Disconnect all connectors from the Main P. C. Board while lifting up the Main P. C. Board A section.

Note : When unsoldering the solder (a), take care not to break the parallel wire.

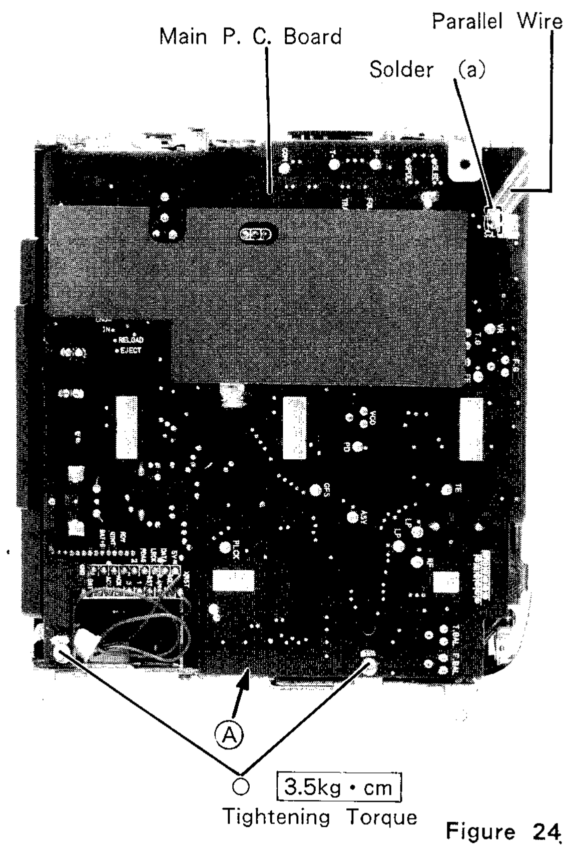

Main P. C. Board
Parallel Wire
Solder (a)
Ⓐ
○ 3.5kg・cm
Tightening Torque

Figure 24

2. Removal of Interface P. C. Board

(1) After removing the Main P. C. Board, unsolder the solder (b) as shown in Figure 25.

(2) Remove two screws marked "×" as shown in Figure 25.

(3) Remove two jumper wires connected to the loading motor.

Note : When unsoldering the solder (b), take care not to break the parallel wire.

3. Removal of Sensor P. C. Board

(1) Unsolder the solder (c) as shown in Figure 26.

(2) Remove one screw marked "△" as shown in Figure 26.

Note : When unsoldering the solder (c), take care not to break the parallel wire.

4. Removal of End Switch P. C. Board

(1) Unsolder the solder (d) and (e) as shown in Figure 27.

(2) Remove two screws marked "□" as shown in Figure 27.

Note : When unsoldering the solder (d), take care not to break the parallel wire.

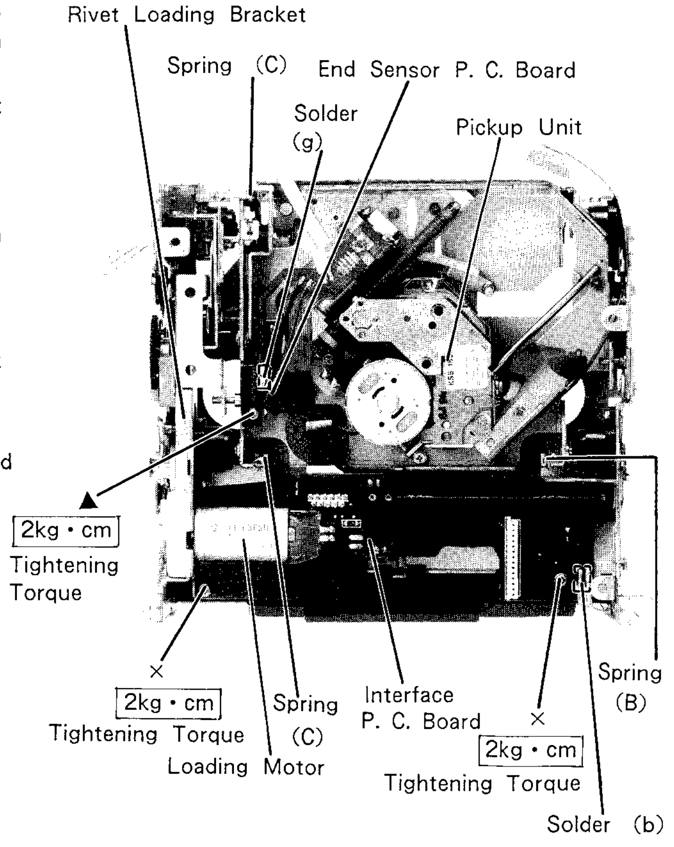

Rivet Loading Bracket
Spring (C)
End Sensor P. C. Board
Solder (g)
Pickup Unit
▲
2kg・cm
Tightening Torque
×
2kg・cm
Tightening Torque
Spring (C)
Loading Motor
Interface P. C. Board
×
2kg・cm
Tightening Torque
Spring (B)
Solder (b)

Figure 25

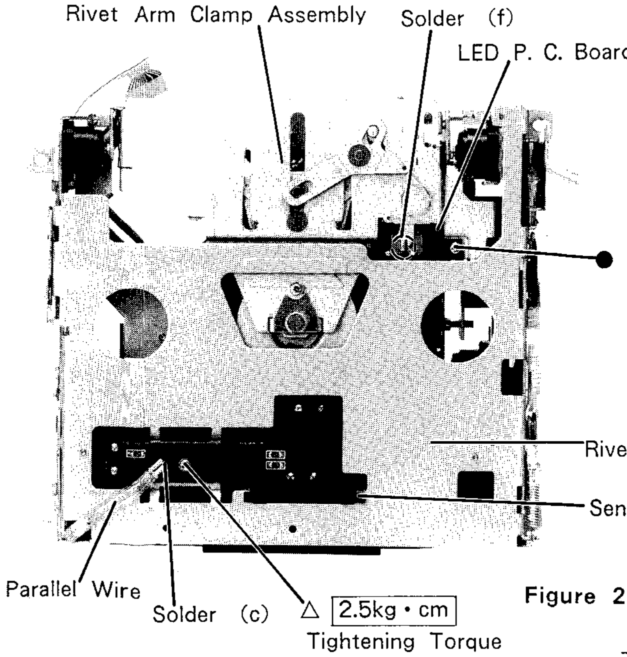

Rivet Arm Clamp Assembly
Solder (f)
LED P. C. Board
●
Rivet Chassis Assembly
Sensor P. C. Board
Parallel Wire
Solder (c)
△ 2.5kg・cm
Tightening Torque

Figure 26

5. Removal of LED P. C. Board

(1) Unsolder the solder (f) as shown in Figure 26.

(2) Remove one screw marked "●" as shown in Figure 26.

Note : When unsoldering the solder (f), take care not to break the parallel wire.

6. Removal of End Sensor P. C. Board

(1) After removing the Main P. C. Board, unsolder the solder (g) as shown in Figure 25.

(2) Remove one screw marked "▲" as shown in Figure 25.

Note : When unsoldering the solder (g), take care not to break the parallel wire.

7. Removal of Damper (L) Bracket

(1) After removing the Main and Interface P. C.Boards, remove one spring (A) as shown in Figure 28.

(2) Remove one screw marked "■" as shown in Figure 28.

(3) Remove the damper from the Pickup Unit shaft, and the bracket can be removed.

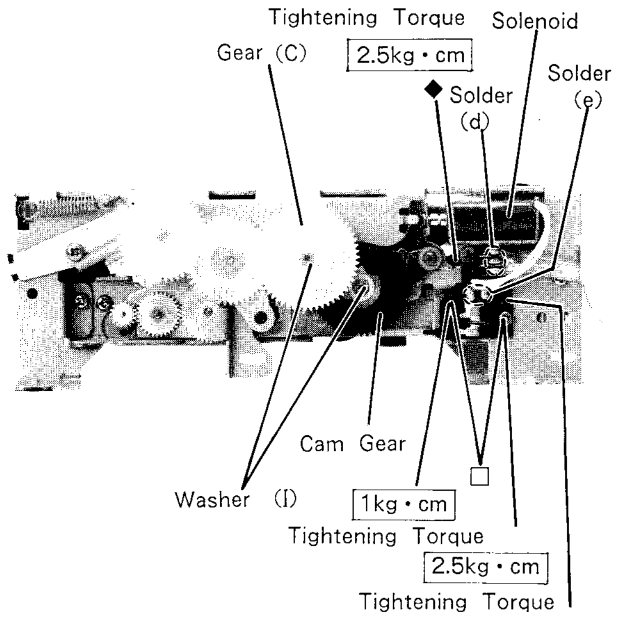

Tightening Torque
Solenoid
Gear (C)
2.5kg・cm
◆ Solder (d)
Solder (e)
Cam Gear
Washer (Ⅰ)
1kg・cm
Tightening Torque
□
2.5kg・cm
Tightening Torque
End Switch P. C. Board

Figure 27

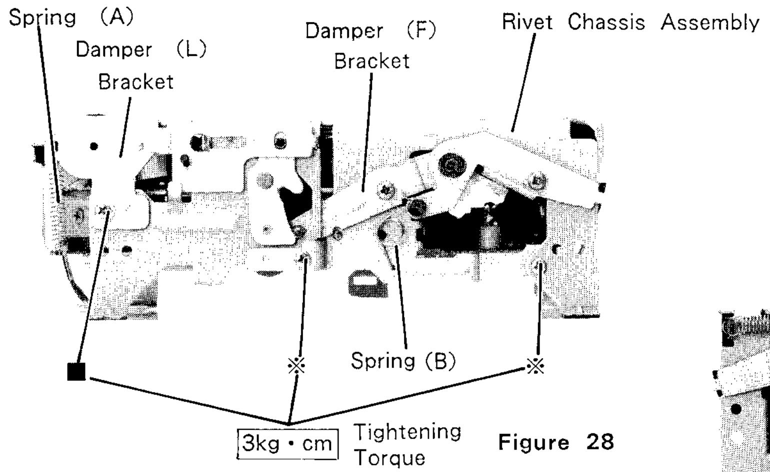

Spring (A)
Damper (L) Bracket
Damper (F) Bracket
Rivet Chassis Assembly
■
※
Spring (B)
※
3kg・cm
Tightening Torque

Figure 28

8. Removal of Damper (F) Bracket

(1) After removing the Main and Interface P. C. Boards, remove two springs (B) as shown in Figures 25 and 28.

(2) Remove two screws marked "※" as shown in Figure 28.

(3) Remove the damper from the Pickup Unit shaft, and the bracket can be removed.

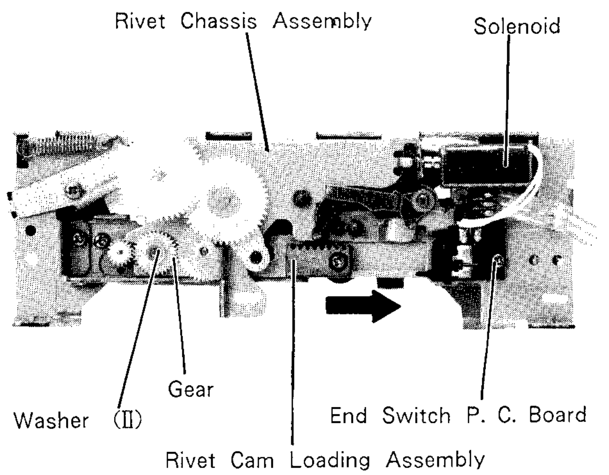

Rivet Chassis Assembly
Solenoid
Gear
Washer (Ⅱ)
End Switch P. C. Board
Rivet Cam Loading Assembly

Figure 29

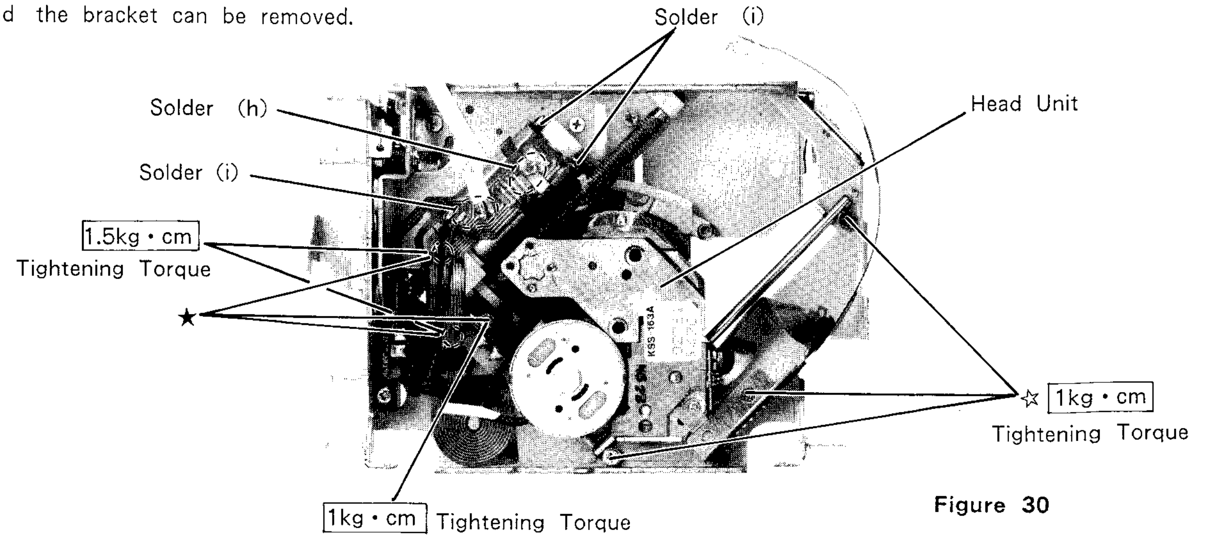

Solder (i)
Solder (h)
Solder (i)
1.5kg・cm
Tightening Torque
★
Head Unit
☆ 1kg・cm
Tightening Torque
1kg・cm Tightening Torque

Figure 30

9. Removal of Pickup Unit

(1) After removing the both bracket for the damper (L) and (F), remove the washer (I), cam gear and gear (C) as shown in Figure 27.

(2) Remove three screws marked "*", and the Pickup Unit with Rivet Loading bracket Assembly can be removed as shown in Figure 31.

(3) Remove two springs (C), remove the damper from the Pickup Unit shaft, and then the Rivet Loading Bracket Assembly can be removed as shown in Figure 25.

10. Removal of Head Unit

(1) Unsolder solder (h) as shown in Figure 30.

(2) Remove three screws marked "☆" as shown in Figure 30.

11. Removal of Servo Motor P. C. Board

(1) After removing the Head Unit, unsolder three solder (i) as shown in Figure 30.

(2) Remove three screws marked "★" as shown in Figure 30.

12. Removal of Loading Motor

(1) After removing the Rivet Loading Bracket, remove one washer (II) and gear as shown in Figure 29.

(2) After moving the Rivet Cam Loading Assembly in the arrow direction, remove two screws marked "◇" as shown in Figures 29 and 31.

13. Removal of Solenoid

(1) Unsolder the solder (e) as shown in Figure 27.

(2) Remove one screw marked "◆" as shown in Figure 27.

Precautions during Disassembling and Assembling

1) Be sure to use brand-new washer and do not use any washer which was previously used. The new washer should not have peeling on cleavage.

2) When performing soldering, take care that temperature of the iron tip will not exceed 320℃ and soldering time should be less than 3 seconds. Also make sure there is no defect soldering such as loose solder, solder short and foil breakage.

3) Useful hints for remounting the can gear and gear (C).

   ① Set the Rivet Loading can Assembly to theloading position as shown in Figure 33.

   ② Engage the gear can with the gear (C) as shown in the Figure 32, and mount them on the shafts (A) of the Arm Load (R) Assembly as shown in Figure 33.

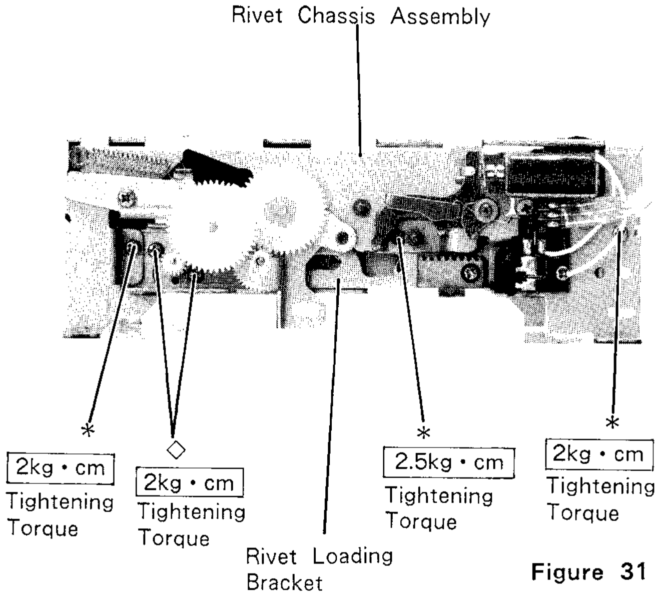

Rivet Chassis Assembly
*
2kg • cm
Tightening Torque
◇
2kg • cm
Tightening Torque
Rivet Loading Bracket
*
2.5kg • cm
Tightening Torque
*
2kg • cm
Tightening Torque

Figure 31

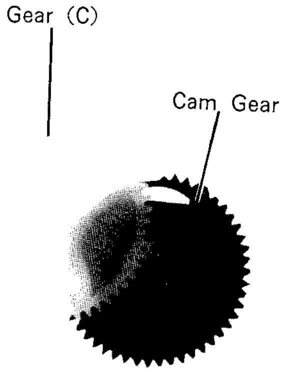

Gear (C)
Cam Gear

Figure 32

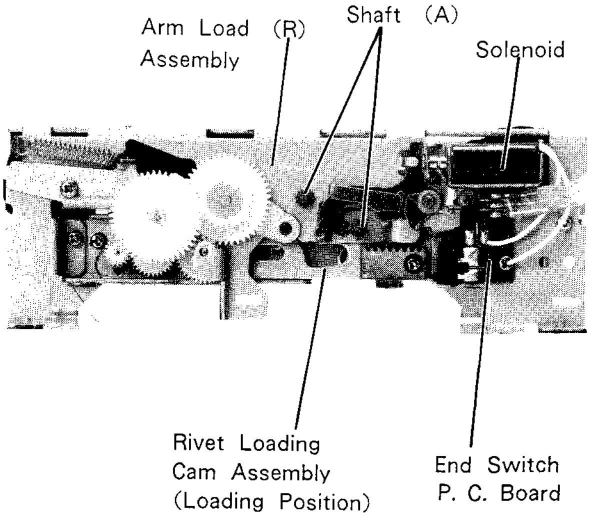

Arm Load (R) Assembly
Shaft (A)
Solenoid
Rivet Loading Cam Assembly (Loading Position)
End Switch P. C. Board

Figure 33